

St Anne's - Restoring Your Railway

Strategic Outline Business Case

Bristol City Council

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Executive Summary

Introduction

- 1.1 As part of the ongoing programme to enhance the rail network in the West of England region, to support the transition to a low-carbon transport network, this document sets out the Strategic Outline Business Case for a new railway station in the St Anne's area of Bristol.
- 1.2 The scheme will deliver a new station on the existing Great Western Main Line, between Bristol Temple Meads and Keynsham. The previous St Anne's station (known as St Anne's Park) was closed in 1970 and the original station buildings demolished. There has been strong support to provide a new station within the local community and the proposal is supported by Bristol City Council, the West of England Combined Authority and constituency Member for Parliament, Kerry McCarthy MP.
- 1.3 This Strategic Outline Business Case has been drafted in accordance with Department for Transport (DfT) Transport Appraisal Guidance (TAG) and the Restoring Your Railway (RYR) Fund guidance on proportionality. It provides background evidence for the scheme, in order to guide a decision on whether the proposal should be progressed to Outline Business Case stage.

The Case for Investment

- 1.4 The opening of a station in the St Anne's area of Bristol has the overall objective to reconnect the community of St Anne's and surrounding areas to the rail network, providing improved access to jobs and leisure for existing residents. For the purpose of this business case, the scheme is assumed to be located on the same site as the previous station, which closed in 1970. The scheme would also support planned residential and economic growth in the area. The proposed station has very strong alignment with national, regional and local policies, particularly Decarbonising Transport: A better, Greener Britain.
- 1.5 The St Anne's/East Brislington area is currently poorly served by public transport, despite having a large population (nearly 12,000) including a substantial new housing development alongside the River Avon. There are also plans for additional housing within walking distance of the proposed station. Due to its location, bounded by the River Avon on three sides, the St Anne's suburb is a challenging area to effectively serve by commercial bus services. Currently, only one bus service (no.36) connects the area with the city centre. It has a 30-minute frequency and does not directly serve Bristol Temple Meads station. Bus use currently represents just 8% of commuting mode share.
- 1.6 There exists a clear lack of public transport and active travel alternatives for the area, with the result that residents often feel no choice but to own and use a car regularly, despite their proximity to the city centre and local services. Seventy-nine percent of residents in the relevant St Anne's ward own one or more cars.
- 1.7 However, 60% of local residents surveyed stated that they would use a new station at St Anne's, 25% of which would be on a daily basis. Furthermore, 75% of respondents stated that they currently undertook journeys by car that could be undertaken by rail if a new station was opened.
- 1.8 A new station would provide alternative rapid public transport access into central Bristol (5-minute journey time as opposed to the current 30 minutes plus), as well as to Keynsham and Bath, thus reducing traffic on the busy A4 corridor where further large-scale housing development is expected. There is also the potential for direct services to other parts of the local rail network and interchange opportunities to access the wider rail network. Trips inbound to St Anne's to destinations such as education, business and retail sites would also be expected to transfer to rail if a new station was opened.
- 1.9 Rail use for all trip types and lengths make an important contribution to achieving the country's carbon targets, with the reopening of St Anne's station being an important contributor to this process. Furthermore, the reopening of St Anne's station has a strategically important place within the wider rail landscape across the West of England over the next few years. The West of England Combined Authority's (WECA) MetroWest programme has already begun to

progress the development and transformation of local rail travel across the region, aiming to increase capacity on the network and accessibility to stations for a range of residents.

- 1.10 Reducing carbon in a global economy is a UK priority. Transport is a crucial element of our international economy, the DfT Decarbonising Transport strategy aims to harness the UK to steer low carbon innovation that helps a global transition of low carbon and boost the UK economy, leading the change internationally.

The Scheme Operational Constraints

- 1.11 The existing Bristol to Bath rail line running through St Anne's has one track in each direction, currently carrying a mix of express passenger, local passenger and freight services. MetroWest Phase 1A, assumed to have been delivered in advance of a reopened station at St Anne's, will provide a half-hourly local stopping service (2 trains per hour) along this section of the rail network in both directions.
- 1.12 One of the foremost potential constraints for any new station built along the Great Western Main Line is that of ensuring sufficient capacity for any new services or stops within the timetabling of the line. Initial analysis by Network Rail has indicated that stopping one train an hour at St Anne's could be feasible, albeit with performance risks. Additional calls have not been modelled. Further timetable modelling will ultimately inform station design and location options to ensure that there is minimal impact to existing services. This could include the use of passing loops.
- 1.13 The site of the former station is now constrained by housing and so a site a few hundred yards up the line near to Langton Court Road bridge may represent a better solution. A new footbridge over the River Avon could also further expand the catchment for a new St Anne's station. These specific deliverability issues would need to be explored more fully at the Outline Business Case stage.

The Economic Dimension

- 1.14 In line with RYR fund guidance, a light touch proportionate approach has been adopted for the Economic Dimension. The construction of a new station in St Anne's would provide residents with an alternative, sustainable and efficient method of transportation for a range of short and long-distance trips across Bristol and beyond.
- 1.15 To undertake an initial assessment of the potential demand for a new station, a mode choice model has been developed, with calculations/assumptions in accordance with TAG. Two forecast demand scenarios have been considered: enhancements to bus services; and the new station.
- 1.16 The central forecast (2 trains per hour stopping at St Anne's) is forecast to attract on average 2,127 daily passengers boarding and alighting rail services at St Anne's. However, the majority of these rail trips (81%, 1,727 daily trips) are forecast to be extracted from bus, with 10% (219 daily trips) extracted from walking. Eight percent of rail trips are forecast to be extracted from car, representing 181 daily trips. Further consideration could be given to opportunities to increase modal integration and therefore widening the catchment of trips considered within scope of rail to/from St Anne's. The wider WECA transport policy context, including the Future Transport Zone programme targeting a more integrated and efficient transport network, provides an opportunity to further increase rail demand.
- 1.17 The additional stop at St Anne's will attract local users to rail but the slowing down, station dwell and acceleration back up to line speed to call at the new station will also increase travel times for users already travelling through the station on affected services from origins elsewhere. The rail industry standard passenger demand forecasting tool Moira has been used to assess the impacts of additional journey time of 1 minute for passengers on the stopping service passing through St Anne's, which indicates a reduction in existing daily rail demand of 174.
- 1.18 Adopting a traditional economic appraisal of the new station, considering journey time savings/costs and construction costs over a 60-year appraisal period, generated a BCR of -0.34, based on 2 trains per hour and an addition 1 minute delay for existing rail users. This negative BCR is driven by the small disbenefit (1 minute) forecast to be experienced by the large number of existing rail users, which outweighs the more significant (14 minute) benefit forecast to be experienced by users of the St Anne's station. Further, more detailed, analysis is

required to explore the potential and opportunities to increase the demand for rail services, through improving integration and widening the connectivity/catchment. Work is also required to define the precise delay to existing rail users and indeed to determine the extent to which any such delay would be perceived/noticed by existing users, depending on the length and duration of their rail trips.

- 1.19 The potential new station in St Anne's must also be considered within the context of the WECA 10 and 25-Year Rail Strategies, which will further enhance network connectivity, providing residents of St Anne's greater accessibility to employment, services and facilities across the region. This would also be aligned to wider policies to connect rail stations to other key destinations, such as central Bristol rather than focusing on the rail termini such as Bristol Temple Meads.

Wider Scheme Benefits

- 1.20 An important consideration is the potential wider economic, social and environmental benefits that a station in St Anne's could generate. An analysis of similar areas in Bristol, which already have a railway station, indicate they have higher employment rates and lower average social deprivation rates. Whilst it is noted that the presence of a rail station is just one factor in determining economic performance, the potential scale of such wider benefits and the contribution of a new station would merit further, more detailed, consideration. Further analysis is required to determine the extent of the net-economic growth that would be expected, considering the displacement of economic activity from other locations.
- 1.21 The scheme also provides significant potential for inclusive growth across the area, with more deprived areas of Brislington likely to benefit from improved public transport, allowing for increased accessibility onto the rail network as well as improved connectivity for those without access to a car. Linking St Anne's and Brislington residents to employment opportunities across Bristol and the West of England will contribute towards economic growth across the area, with core benefits focused into St Anne's.
- 1.22 Within the context of current and future transport policies of the WECA region, a new station in St Anne's would complement and support a shift to active and multi-modal non-car travel patterns. Bristol is frequently reported to be among the most congested cities in the country, an unwelcome distinction. Addressing this through the creation of additional capacity for more cars is no longer a realistic or palatable option, this capacity instead inducing yet more demand.
- 1.23 St Anne's forms part of a strategic approach for creating neighbourhoods which enable and deliver multi-modal transport choices giving travellers a range of options. Where these options collectively offer versatility, convenience and user benefit they can replace the need to own and use a car, an outcome which will become increasingly necessary for and decarbonising transport and realising lower car ownership.
- 1.24 The station could therefore operate as a neighbourhood transport hub, encouraging active travel use for first/last mile trips to and from the station. As part of the Future Transport Zone programme, WECA and BCC are trialling and delivering projects involving shared mobility, e-scooters, demand responsive travel and journey planning, which in part will realise this vision. Creating enhanced and new public transport and active travel linkages from St Anne's station to the wider network, including the possible A4 corridor metro-bus service, will further validate the role of the station as a neighbourhood centre and transport hub.
- 1.25 With limited environmental impacts outside the construction period, the station should also have a positive net-benefit for the local environment.

1. Introduction

1.1 SOBC Overview

- 1.26 Rail transport represents one of the most efficient ways of moving high volumes of people into cities, as well as over long distances, whilst being a relatively low-carbon form of transportation. In 2018, greenhouse gas emissions from rail (passenger and freight) contributed only 1.4% of the UK's domestic transport emissions¹.
- 1.27 The West of England area lies at the confluence of several inter-city and regional train services, providing important rail links to London, the South West and South Wales. Despite this, a lack of local stations and services (compared with other similar sized conurbations) has resulted in low levels of rail usage across Bristol for local trips, with the rail network accounting for only around 1.6% of commuter trips, and 2.5% of all trips made during peak hours². This has exacerbated existing congestion issues on Bristol's already restricted road network, particularly within the city centre and surrounding central wards.
- 1.28 Whilst the West of England has benefited from a strong economy over the last decade, the sub-region's economic prosperity is beginning to be constrained by its transport network. As demand on the transport network increases as a result of economic and population growth commitments, further investment is needed to ensure the transport network has sufficiently connectivity and has sufficient capacity and resilience to continue to meet the sub region's needs. Longer-term problems of sustained traffic growth and car dependency also need to be tackled, in addition to wider long-term issues of the climate emergency, carbon emissions and social wellbeing³.
- 1.29 In 2020 the Department for Transport (DfT) launched a £500 million 'Restoring Your Railway' (RYR) fund, seeking to reverse decisions made within the 1963 Beeching Report, and reopen stations and lines to provide local rail services⁴. Funding is being made available to local councils who can provide a strong case for the benefits of reopening parts of the rail network, in order to improve rail travel, encourage modal shift from car use and provide wider economic benefits to local communities.
- 1.30 The DfT have granted Bristol City Council (BCC) funding from the Restoring Your Railway fund to produce a Strategic Outline Business Case (SOBC) for a new station at St Anne's Park. Whilst an exact location is yet to be determined, the eventual site would be situated between Bristol Temple Meads and Keynsham on the Great Western Main Line.
- 1.31 This report represents the SOBC for the proposed scheme, drafted in accordance with DfT Transport Appraisal Guidance (TAG) and the RYR guidance on proportionality. It will be used to provide background evidence for the scheme, in order to guide a decision for whether the proposal should be progressed to Outline Business Case (OBC) stage.
- 1.32 The DfT guidelines with respect to the RYR requirements outline the key questions the SOBC has to answer, with a primary focus on developing a strong Strategic Dimension. A proportionate approach is required for the Economic Dimension; it should be noted that complex demand modelling is not required at this stage of work and would be addressed within the OBC stage of appraisal.
- 1.33 Separate work has been commissioned by BCC for Network Rail to carry out operational modelling to assess the operational feasibility of stopping services at the new station. No separate operational modelling has therefore been carried out for this report, with outputs from Network Rail's work used to inform the Economic Dimension.

¹ Department for Transport (2020), 'Decarbonising Transport: Setting the Challenge': https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/932122/decarbonising-transport-setting-the-challenge.pdf

² University of the West of England (2016), 'Bring back St Anne's Park: Feasibility Study'.

³ <https://www.bristol.gov.uk/documents/20182/33167/Joint-transport-study/a34b16f2-821f-cc04-51f5-7e030c328c3d>

⁴ <https://www.gov.uk/government/collections/restoring-your-railway-fund>

1.2 Structure of the SOBC

1.34 This report therefore sets out a case for the reopening of St Anne's Park station. Following TAG, the report will be structured into five key sections:

- Strategic Dimension;
- Economic Dimension;
- Financial Dimension;
- Commercial Dimension; and
- Management Dimension.

2. Strategic Dimension

2.1 Introduction

- 2.1 Proposals to re-open a railway station for the St Anne's area of Bristol aim to reconnect the communities of St Anne's and surrounding areas to the rail network, providing improved access to jobs and leisure for existing residents, as well as supporting planned growth in the area. For the purposes of this study, the proposed new rail station has been assumed to be located on approximately the same site as the original station (Figure 0-1), on the Great Western Main Line between Bristol Temple Meads and Keynsham. However, it should be noted that this could be subject to change as the scheme develops.

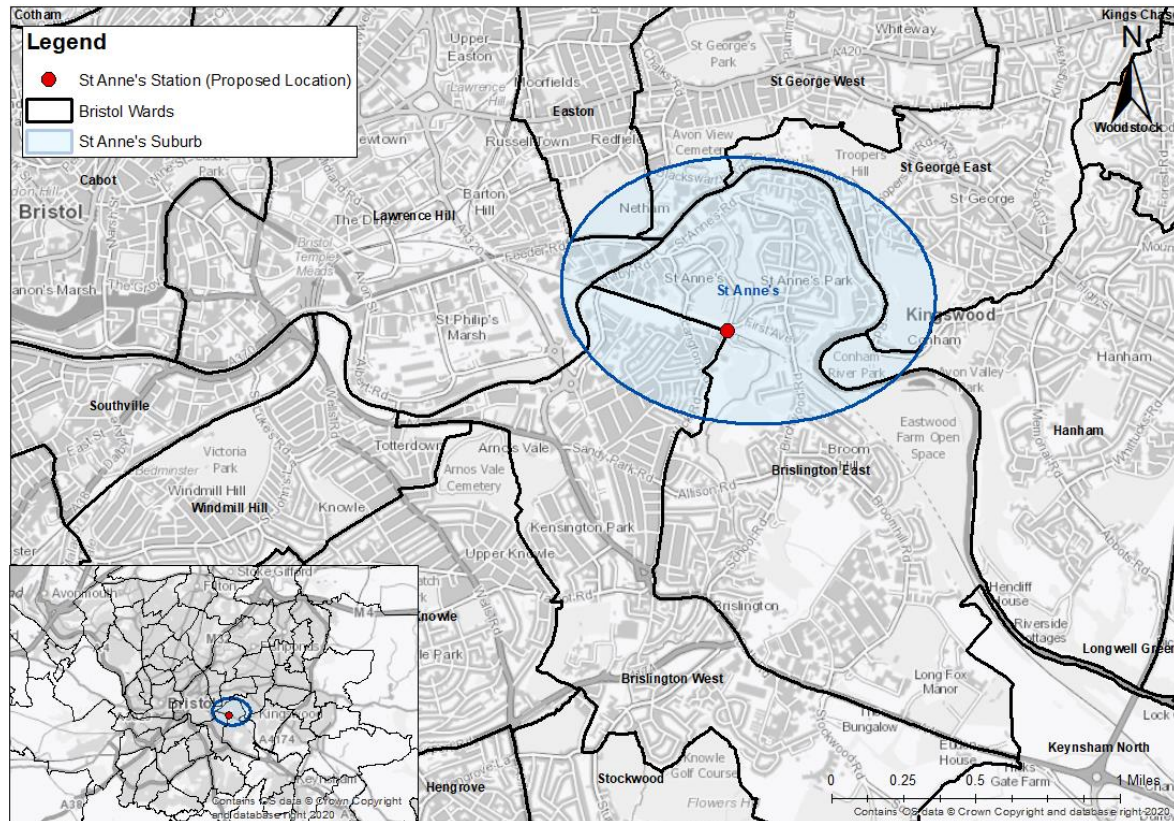


Figure 0-1: St Anne's Context Map

- 2.2 The original station, known as St Anne's Park (pictured in Figure 0-2), was closed in 1970 and subsequently demolished, meaning that any successful proposal will have to factor in the construction of a brand-new station.



Figure 0-2: Photograph of the original rail station at St Anne's Park⁵

- 2.3 There has been strong recent public support to reopen the station, with the proposal backed with political support from MP Kerry McCarthy (originator of the successful bid to the Ideas Fund of the DfT's Restoring Your Railway scheme). The scheme forms a part of a package of rail schemes being considered within the West of England Combined Authority's (WECA) Joint Local Transport Plan 4 (JLTP4), covering Bath & North East Somerset, Bristol, North Somerset, and South Gloucestershire councils. Figure 0-3 outlines the timeline of recent developments in interest towards the reopening of the station.

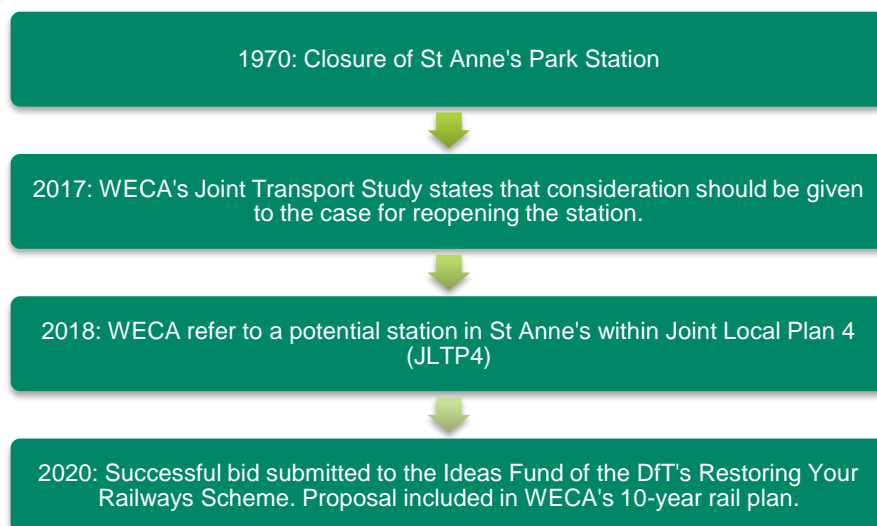


Figure 0-3: Timeline of emerging interest in a rail station in St Anne's

⁵ <https://fosbr.org.uk/timelines/st-annes-park-station/>

2.2 Strategic Alignment with Policy

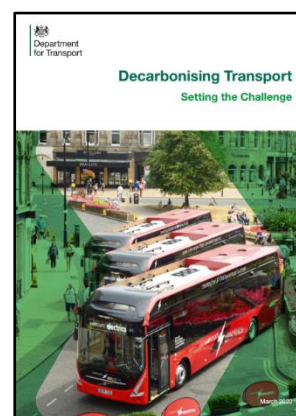
- 2.4 Key to establishing the strategic dimension for investment is the alignment and therefore contribution the scheme could make to achieving national, regional and local policy objectives.

2.2.1 National Policies

Connecting People: A Strategic Vision for Rail (DfT)

- 2.5 Published in 2017, the DfT's Strategic Vision for Rail outlines the Government's plans to update and invest in the national rail network, in order to provide a more reliable, efficient and expansive service that will encourage modal shift from car-based to rail-based travel.
- 2.6 The vision includes targets for the 'near term', comprising better customer service and the delivery of planned upgrades, through to beyond 2030, with longer-term plans focusing on improving reliability and implementing innovative and digital solutions to existing issues.
- 2.7 The vision has been segmented into five key targets, each with their own priorities and proposed means of achievement:

1. **A more reliable railway:** Measures to reform ageing lines and facilities, to ensure passengers, communities and freight customers get the most out of the existing network. Includes a £34.7bn overhaul of the network between 2019-2024 to improve reliability and reduce disruption.
2. **An expanded network:** Investing in the capacity of the network, through expanding commuter routes, opening new routes to unlock housing and development, as well as the generation of high-capacity railways such as HS2.
3. **A better deal for passengers:** Ensuring that the right controls and incentives are in place on each part of the network to improve the customer experience. Measures include the rollout of smart ticketing systems, improved accessibility, and better use of technology for passengers.
4. **A modern workforce:** Improving skills, diversity, training and development in the rail workforce, with staff sharing in the success of the railway.
5. **A productive and innovative sector:** Maximising the productivity of the rail network, working to accelerate innovation and embed sustainable development principles for the long term.



Network expansion represents one of the most important steps to improving network capacity and meeting demand. In promising to reverse the historic contraction of the rail network, the reopening of stations like St Anne's Park is seen as a key solution to issues of urban congestion, with the potential to benefit local housing and economic growth in the area.

Decarbonising Transport: Setting the Challenge (DfT)

- 2.8 The DfT's 'Decarbonising transport: setting the challenge' (published in March 2020) represented an initial scope for the 'Transport Decarbonisation Plan', released in July 2021. The plan sets out the steps that Government, business, and wider society will need to action in order to deliver the significant emissions reductions required across all modes of transport. This is in line with meeting the government's target to reach net zero emissions across all modes of transport by 2050.
- 2.9 The Government is investing a record £48 billion into the railway network from 2020-2024, in order to support continued growth, ensure rail remains an attractive and viable option for patrons, and to maximise modal shift from more polluting modes. Over 1,000 single track miles

of electrification has been delivered since 2010, with continued expansion of the electrified rail network including a project on the Great Western Main Line.

2.10 The report sets out six strategic priorities for the Transport Decarbonisation Plan (outlined in Figure 0-4 on the next page):

- Accelerating modal shift to public and active transport;
- Decarbonisation of road vehicles;
- Decarbonising how we get our goods;
- Place-based solutions;
- UK as a hub for green transport technology and innovation; and
- Reducing carbon in a global economy.

Reducing carbon in a global economy is a UK priority. Transport is a crucial element of our international economy; the DfT decarbonisation strategy aims to harness the UK to steer low carbon innovation that helps a global transition of low carbon and will boost the UK economy, leading the change internationally. Promoting rail use for all trip types/lengths will therefore make an important contribution to achieving the country's carbon targets. The reopening of St Anne's Park station can provide a local support for these national ambitions, depending on the potential demand and ability of the station to encourage a modal shift from car to rail.



Figure 0-4: Six Strategic Priorities for a Net Zero UK Transport System

Decarbonising Transport: A Better, Greener Britain (DfT)

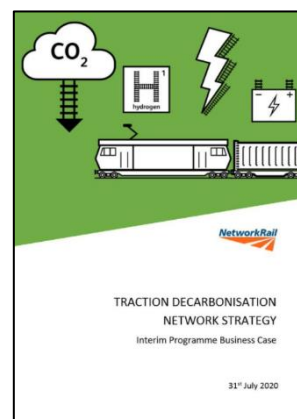
- 2.11 Following on from their 'Setting the Challenge' document, the Department for Transport released the full 'Decarbonising Transport' Strategy in July 2021, detailing their vision to improve air quality and reduce emissions from a range of transport sources across the country, alongside ensuring improvements to national health and employment.
- 2.12 The strategy reemphasises the six strategic priorities outlined within Figure 0-4 in order to achieve the Government's vision by 2050, with three priorities of particular importance to the future of rail:
- Accelerating modal shift to public and active transport
 - Decarbonising how we get our goods
 - Place-based solutions to emissions reduction
- 2.13 The commitments, actions and timings detailed within the strategy are split into two overarching sections: Part 2a – Decarbonising all forms of transport, and Part 2b – Multi-modal decarbonisation and key enablers. Within Part 2a, the means by which the Government intends to decarbonise our railways is outlined. Central to this is the intention to deliver a programme of further railway line electrification, together with the use of battery and hydrogen trains, in order to allow for a zero-carbon railway. It is estimated that 97% of emissions from the railway network could be removed by 2050 if assumed levels of electrification, hydrogen and battery technologies are achieved. The timeline to 2050 includes the following ambitions:
- **2020s-2030s:** Policies will incentivise the take up of low carbon traction by rail freight operators. Freight Operating Companies will use more electric and low carbon traction. Investments in High-Speed Rail and extra capacity on the network will support modal shift to rail;
 - **By 2040:** The ambition for all diesel-only trains to be removed from the network; and
 - **By 2050:** The rail network to achieve net-zero emissions, with indirect benefits for road congestion, employment and air quality across the country.
- 2.14 Alongside direct improvements to the rail network, facilities and services, connectivity improvements will also be sought through greater links with walking, cycling and other modes of sustainable transport. Walking and cycling routes to and from the proposed station will be considered to support healthier, greener journeys after the pandemic, alongside the potential introduction of cycle storage, e-bike hire, and electric vehicle rental and/or charge points.



The St Anne's scheme will contribute towards the DfT's Part 2a targets, working to provide improved rail network coverage, and thereby encourage modal shift away from more carbon intensive forms of transport. If progressed to further stages of work, work should be undertaken to establish and improve the connectivity of the station with existing active and alternative sustainable travel routes.

Traction Decarbonisation Network Strategy, Network Rail

- 2.15 Published in July 2020, this strategy sets out Network Rail's response to the UK Government's net zero emissions target, outlining the measures to be taken in order to achieve this. Rail currently contributes less than 1% of the UK's total annual greenhouse gas emissions. However, Network Rail state that it represents 'the only transport mode capable of moving both people and heavy goods using a zero-carbon solution'. Rail therefore has a significant role to play in the decarbonisation of the UK economy and transportation.
- 2.16 Central to rail decarbonisation will be the reduction and eventual cessation of diesel train operation. In its place, more widespread electrification should be sought out, as well as deployment of battery and hydrogen powered rolling stock.
- 2.17 Analysis suggests that electrification provides the best whole life cost solution for more intensively used areas of the network. As such, the report recommends that at least 15,400 single track kms of unelectrified railway is needed to be converted, in order to achieve traction decarbonisation.
- 2.18 The plan outlines six key strategic themes to be targeted by decarbonisation measures, with objectives outlined for each:



Emissions reduction:

- Achieving net zero GHG by 2050 for UK as a whole;
- NR science-based target of 27.5% reduction for traction by 2029.

Surface transport decarbonisation:

- Modal shift from road and air to rail;
- Additional investment to increase capacity.

Passenger and freight end user:

- Improved resilience to increase passenger reliance on rail;
- Increased capacity to improve customer experience.

Direct rail benefits:

- Achieving cost efficiency, to provide sustainable pricing for passengers, customers and government.

Environmental benefits:

- Provide a longer-term solution to air quality issues.

Wider economy benefits:

- Transport decarbonisation programme would require skilled workers from across the UK to deliver infrastructure and rolling stock.

Proposals to reinstate a rail station at St Anne's would help to achieve targets of wider surface transport decarbonisation – helping to encourage modal shift towards rail travel in the local area. There are currently no plans to electrify the Great Western Main Line (upon which any station location within St Anne's would sit). However, any future electrification proposals to support the Traction Decarbonisation Network Strategy would inherently help to reduce emissions from the services calling at St Anne's.

2.2.2 Regional Policies

Spatial Development Strategy (SDS)

- 2.19 The emerging Spatial Development Strategy (SDS)⁶ will be a blueprint for the region's future, setting out broad locations for growth to meet the need for homes and jobs across the area up to 2040, based on capacity and deliverability. The West of England have committed to high levels of housing and employment growth in the short- to medium-term. The identified need for an additional 105,000 new homes⁷ and 57,500 jobs⁸ by 2040 in the three WECA local authority areas represents a substantial (50%+) increase above growth committed in the existing plans.

Proposals to reinstate a rail station at St Anne's would help to support the regional growth ambitions by enhancing sustainable connectivity. The station will provide those living and working in the area with an alternative to private car use on what is likely to be an increasingly congested highway network, without interventions.

Joint Local Transport Plan 4 (JLTP4)

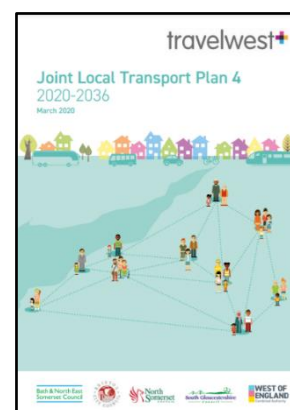
- 2.20 The JLTP4 sets out the vision for transport in the West of England (WoE) up to 2036 – aiming to achieve a well-connected, sustainable transport network that is effective for residents, businesses, and visitors across the region. The Plan was published in March 2020 by the West of England Combined Authority (WECA), working with Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire councils.

- 2.21 Transport represents the largest single source of carbon emissions in the South West, at 32% of all emissions in the region. For the WoE, transport CO2 emissions will rise by a further 22% by 2036 if no action is taken.

- 2.22 Five key objectives have been identified within the JLTP4:

- 1) Take action against climate change and address poor air quality;
- 2) Support sustainable and inclusive economic growth;
- 3) Enable equality and improve accessibility;
- 4) Contribute to better health, wellbeing, safety and security; and
- 5) Create better places.

- 2.23 In turn, demand (at the time the Plan was written) was growing on the local and regional rail network, with trains becoming overcrowded at peak hours, particularly between Bristol and Bath. Figure 0-5 outlines the role envisioned for rail by the JLTP4 as providing connectivity for a range of journeys from the local through to those taken to or from beyond the WECA area. A new station at St Anne's would primarily serve local journeys and those made within the West of England region, meeting WECA's goals for improvements to local and regional rail connectivity.



⁶ <https://www.westofengland-ca.gov.uk/what-we-do/planning-housing/spatial-development-strategy/>

⁷ <https://www.westofengland-ca.gov.uk/wp-content/uploads/2021/11/LHNA-summary.pdf>

⁸ https://www.westofengland-ca.gov.uk/wp-content/uploads/2021/10/ELSNA_Final_Report_June_20211.pdf

	Neighbourhood	Local	Within WoE	Beyond WoE
Walking				
Ferries/boats				
Cycling				
Taxis and Private Hire Vehicles				
Mass and rapid transit				
Bus				
Rail				
Motorcycles and mopeds				
Car/Electric Vehicle				
Park and Ride				
Coach				
Aeroplane				

Figure 0-5: Role of transport modes in improving personal travel connectivity at different connectivity levels

- 2.24 The Rail Supporting Supplement (Section 12) to the document outlines a number of existing issues experienced by the rail network, with a range of opportunities presented for their improvement. These have been fashioned into several objectives, with particular local service emphasis within Bristol:
- **Fast, comfortable and reliable local passenger train services with good connections to longer distance services:** This objective requires new stations to be constructed in strategically significant locations in order to improve general accessibility to the rail network. It is acknowledged that an increased number of stops, such as at St Anne's on the Great Western Mainline, could have an impact on service speeds and frequencies.
 - **Clock face timetables with at least half-hourly services throughout the day:** A regular service to key locations within the region would provide added incentive to use the rail network, with subsequent improvements to congestion on the road network. Areas with poor bus coverage like St Anne's would benefit greatly.
 - **Cross-Bristol Train Services:** By encouraging use of rail transport for internal journeys around Bristol, congestion can be eased, especially during commuter peak hours. Central to achieving this is the reinstatement of more stations to bring the network within walking and cycling distance of more residents.
- 2.25 As part of measures to improve rail services in the region, JLTP4 sets out plans to consider the extension of services beyond Henbury, as well as a new station at St Anne's amongst other prospective locations.

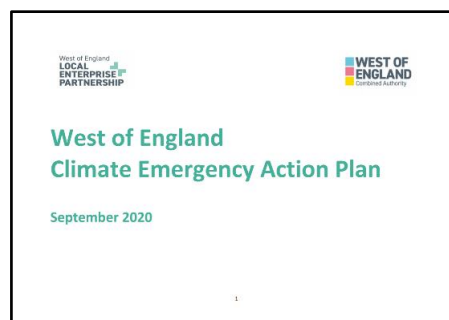
The St Anne's scheme would closely align with WECA's JLTP4 strategy. The reopening of a station would meet all five objectives identified, putting the infrastructure in place to aid in carbon emissions reductions, reduce transport inequalities, and improve accessibility to the rail network and wider West of England region.

WECA Climate Emergency Action Plan

2.26 WECA has set a climate emergency goal of reaching net zero carbon by 2030 – 20 years sooner than national targets. To meet this regional goal, emissions must fall by 18% each year until 2030. As such, the development of the climate emergency action plan serves to direct WECA's work towards this shared future climate target.

2.27 The action plan focuses on five challenge areas where action will be required to achieve the region's goal:

- **Low carbon transport system:** Working to decarbonise the transport system and increase cycling, walking and use of the public transport system. This will aim to build on positive behaviour changes following the Covid-19 pandemic lockdown period.
- **Low carbon business:** Helping local businesses and people benefit from growth in the green economy, maximising government investment in the region and supporting business to recover.
- **Renewable energy:** Working to decarbonise the energy system and increase local renewable energy.
- **Low carbon buildings and places:** Increasing the energy performance of buildings and developing low carbon standards in new developments.
- **The green environment:** Protecting and enhancing the environment through a proactive approach to green infrastructure.



The St Anne's scheme will work to improve the rail network across the West of England, helping to encourage modal shift from car-based travel to public transport and thereby reduce the carbon output for the region.

West of England Local Industrial Strategy (2019)

2.28 The West of England Local Industrial Strategy has been developed by leaders and businesses within the region to support central Government's Industrial Strategy. The West of England Strategy draws on the unique strengths of the people and places in the West of England. The document sets out the West of England's priorities ('cross-sectoral innovation', 'inclusive growth', 'the productivity challenge' and 'innovation in infrastructure delivery'), which have been identified as "key to the West of England's economy"⁹.

2.29 The Local Industrial Strategy highlights several key Enterprise Areas or Zones within the Bristol and Bath area, including at Temple Quarter Enterprise Zone (approximately 1.5 miles to the west of the proposed station), Avonmouth, Filton and central Bath (Figure 0-6). The Strategy identifies that whilst the West of England benefits from strong road and rail links to further afield, the region's infrastructure is coming under increasing pressure, making it harder for residents to move around the region for work and leisure.

2.30 Improved connectivity using affordable transport solutions that minimise the impact on the environment, particularly to the aforementioned growth areas, is therefore identified as a key supporter of growth in the region.

⁹ <https://www.gov.uk/government/publications/west-of-england-local-industrial-strategy/west-of-england-local-industrial-strategy>

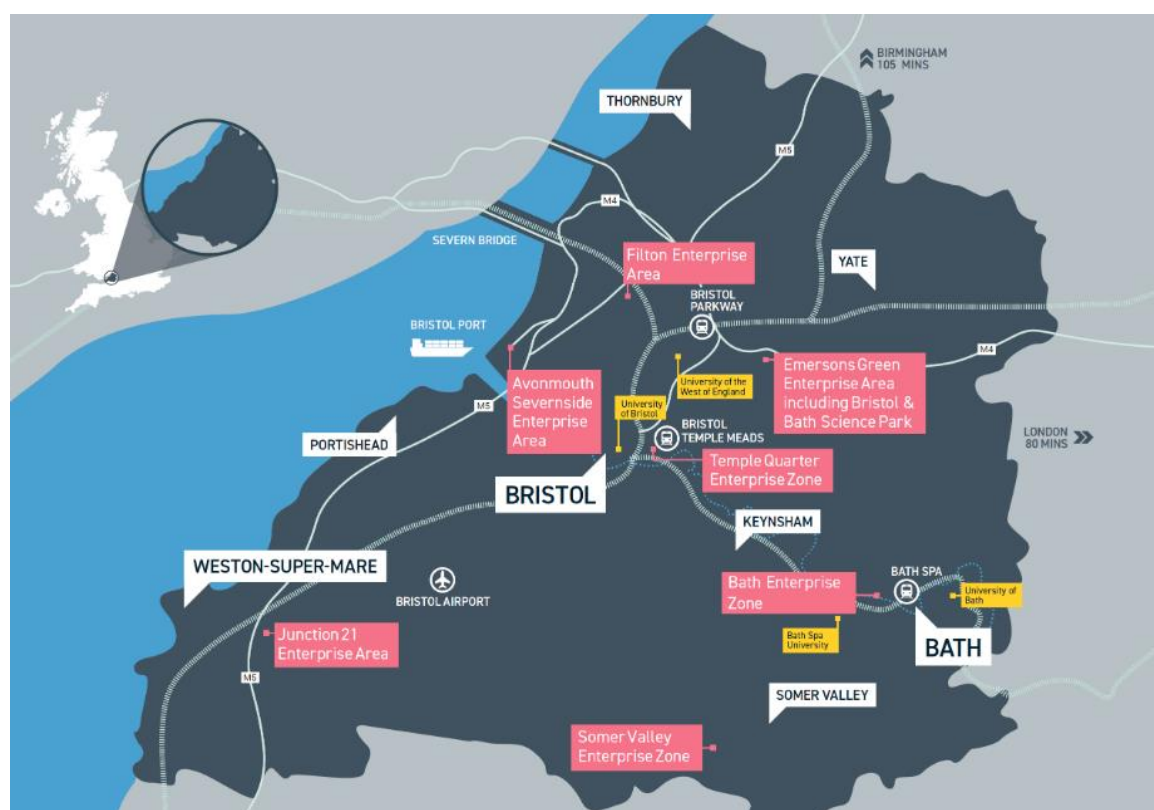


Figure 0-6: Local Industrial Strategy Geography and Growth Areas

2.2.3 Local Policies

Bristol Local Plan

- 2.31 The Bristol City Council Local Plan commitments are currently being renewed to meet the needs of the emerging SDS for the WECA region. At the time of writing, this new Local Plan is expected to start consultation in spring/summer 2022, for adoption in early 2024¹⁰.
- 2.32 The extant statutory development plan consists of the 2008 'Core Strategy'¹¹ and the 2014 'Site Allocations and Development Management Policies' (SADMP)¹². These documents cover the period from 2006 to 2026 and contained the provision for up to 30,600 new homes and 21,900 jobs within the Bristol City Council administrative area (Table 0-1). Whilst many of these new homes have been delivered, the necessary growth identified in the regional SDS therefore reflects a continuation of significant growth over the preceding 15 years.

Table 0-1: Bristol City Council Planned Growth Commitments

Area	Homes	Employment
Bristol (2006 – 2026)	30,600 (min 26,400)	21,900 jobs
City Centre	7,400	
South Bristol	8,000	
Inner East	2,000	150,000 m ² office in city centre
Northern Arc	3,000	10 ha industry + 60,000 m ² office in South Bristol.
Rest of City	6,000	26,000 m ² office across the city
Smaller sites	4,200	

¹⁰ <https://www.bristol.gov.uk/planning-and-building-regulations/local-plan-review>

¹¹ https://www.bristol.gov.uk/documents/20182/34540/Core+Strategy+WEB+PDF+%28low+res+with+links%29_0.pdf/f350d129-d39c-4d48-9451-1f84713a0ed8?t=1436544109000

¹² https://www.bristol.gov.uk/documents/20182/34540/BD5605%20Site%20Allocations_MAIN_text%20V8_0.pdf/46c75ec0-634e-4f78-a00f-7f6c3cb68398

- 2.33 Despite investments in transport infrastructure over the past decade, including the MetroBus programme, this growth has contributed to significant transport challenges in the city (see Section 2.3.2).

Bristol Transport Strategy

- 2.34 Adopted in July 2019, the Bristol Transport Strategy sets out planned improvements to the transport network throughout the city through to 2036, lowering congestion and improving air quality whilst meeting the increased demand from growth in housing, jobs and regeneration.
- 2.35 The strategy notes that, at the time of publication, 53% of commuter journeys are made by car across the city. Due to growth from housing and jobs, this percentage of car commuter journeys would have to be reduced to 43% by 2036 just to maintain current traffic levels. Furthermore, around 300 deaths a year (8.5% of all deaths) are attributable to air pollution.
- 2.36 The vision of the Strategy is for Bristol to become a city of sustainable communities combining housing, employment, retail, education, training and leisure functions, all linked by a strong public transport network. It is hoped that a Bristol transport network can enable people to move around efficiently with increased transport options that are accessible and inclusive to all.
- 2.37 **Error! Reference source not found.** outlines the six key objectives of the strategy. Of central importance to achieving these outcomes is the continued transition towards use of sustainable modes of transport, such as walking, cycling and public transport.



Figure 0-7: Bristol Transport Strategy Objectives

- 2.38 In presenting potential solutions to meet these objectives, the Strategy places great emphasis on the desire to move away from building more roads to solve the aforementioned problems. An overarching approach to city wide movement is therefore predicated upon encouraging modal shift by making non-car modes relatively more efficient and convenient. Although presented in a high-level, potential measures aimed at reducing car demand were outlined to include reducing the convenience of driving (parking management or area-based road

charging), reallocating space for movement by sustainable modes and encouraging the use of sustainable modes.

Reopening a rail station at St Anne's would contribute towards the targeted public transport network improvements across Bristol, with increased opportunities for sustainable travel alternatives supporting sustainable growth and reduced transport inequality in St Anne's.

2.3 Local Transport Context: The Case for Change

2.3.1 Spatial and Demographic Background

- 2.39 St Anne's is a suburb of Bristol bordering on Brislington and Broom Hill to the south, as well as St Philips and St George to the west and north. The area is bounded by the loop of the River Avon to the north and east, with road bridges in place at St Philip's Causeway and Feeder Road, as well as a pedestrian bridge connecting St Anne's Road to Crew's Hole Road.

Socio-economic Characteristics

- 2.40 Rail infrastructure can play an important role in connecting communities to one another and to new employment opportunities. The suburb of St Anne's covers approximately the northern third of the Brislington East ward (Figure 0-1). By mid-2020, Brislington East was estimated to hold a population of around 11,800 residents, a 5.3% increase in the ten years since 2010¹³. Figure 0-8 outlines 2019 social deprivation zones across Bristol Wards (with a lower percentage indicating higher levels of deprivation). Whilst the central zone within St Anne's represents between the 10th and 20th percentiles of the most deprived areas in the UK, surrounding areas appear much closer to the national average (between 40%-70% on average). It appears that the St Anne's area of Brislington East equally displays a higher average percentage than the rest of the ward, indicating that despite pockets of deprivation, the area is more affluent on the whole.

¹³ <https://www.bristol.gov.uk/documents/20182/33904/Population+of+Bristol+September+2021.pdf/e6cb7ac8-278c-c351-9dcc-07a83fb4fe23?t=1632843439676>

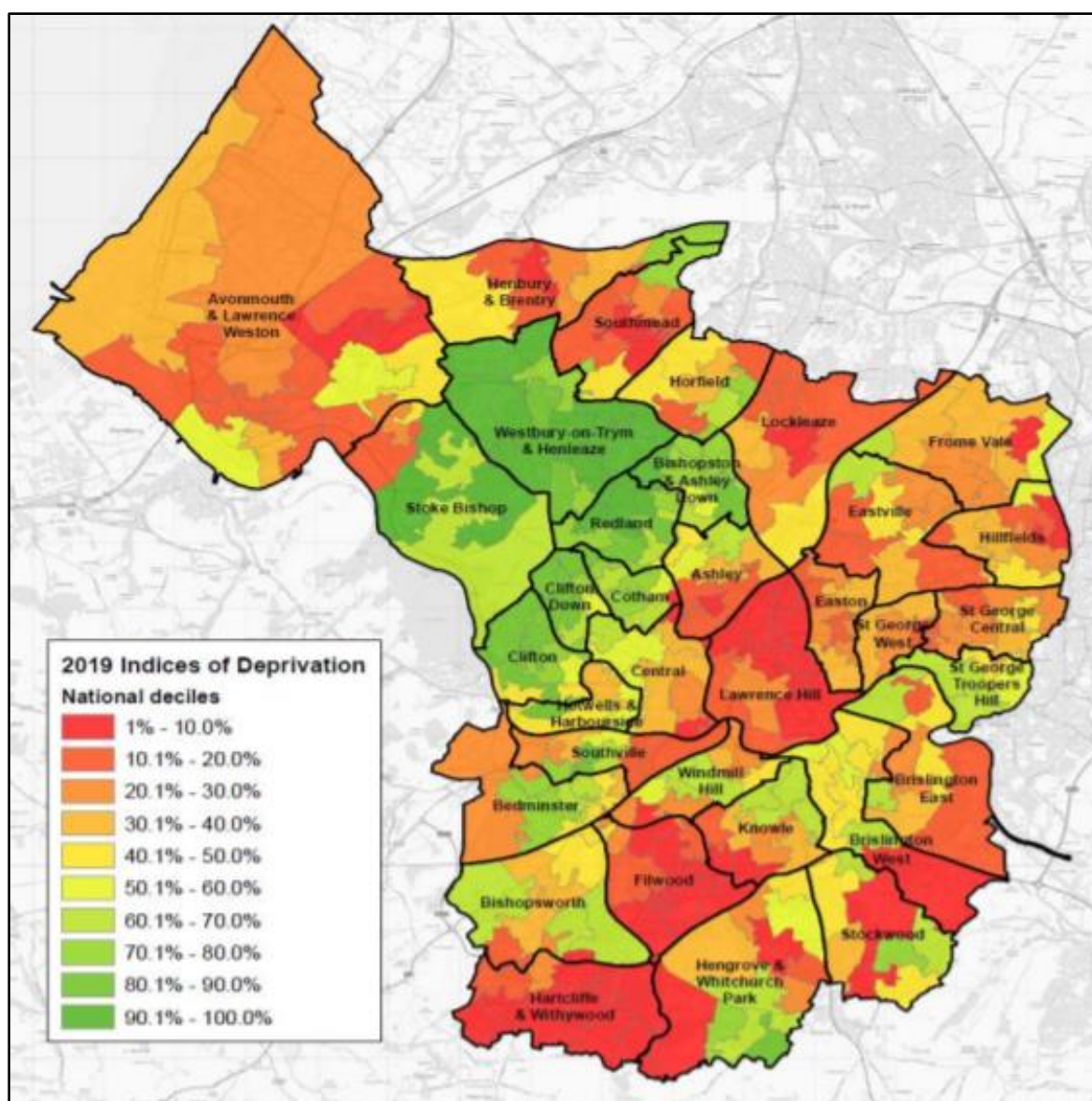


Figure 0-8: Indices of Deprivation across Bristol wards (2019)¹⁴

Whilst there are undoubtedly pockets of deprivation within St Anne's and the wider ward of Brislington East, Census data for employment from 2011 indicates a greater proportion of working people across the ward (

¹⁴ <https://www.bristol.gov.uk/documents/20182/436737/Brislington+East+ward+profile+report>

- 2.41 Table 0-2). A much higher proportion (+8.2%) of the population are shown to be in employment in Brislington East than the City of Bristol as a whole, whilst a slightly lower proportion (-1.6%) are unemployed. This data illustrates the large working age bias across Brislington East, with a lot more journeys to work likely to be occurring on a daily basis from the area – journeys currently underserved by public transport provision.
- 2.42 Whilst the retired population is marginally more prevalent than across the city as a whole (+0.5%), it is still likely that this population will make trips using predominantly public transport, owing to a lower usage of car-based trips amongst this age demographic.

Table 0-2: Local Employment figures across Brislington East

	Brislington East (Numbers)	Brislington East (%)	City of Bristol
Economically Active	6,424	83.2	75.7
In Employment	6,032	78.1	69.9
Unemployed	392	6.1	7.7
Economically Inactive	1,300	16.8	24.3
Retired	292	3.8	3.3
Student	241	3.1	9.8

Source: NOMIS, 2011

Travel Demand Context

- 2.43 It is widely accepted that travel is a derived demand, whereby travel is undertaken as a means of undertaking various activities at any given destination. Subsequently, it is important to understand how the geography and socio-economic characteristics of St Anne's contribute to travel demand between different locations and transport modes. This understanding of the types of existing journeys that occur is therefore critical to predicting the impact of a new station within St Anne's and the wider Brislington area.
- 2.44 As a relatively consistent, publicly available data source, 2011 Census data provides useful insights into one of the key trip purposes: commuting. There are however, as captured in the National Travel Survey, there are numerous different journey purposes across the day, including education and leisure. The nature of the datasets means that movements captured may represent a 'snapshot' in time and not necessarily the travel patterns of the area's population at the time of writing, especially given the impacts of the pandemic. However, this sub-section provides an overview of the key trip generators and attractors of relevance to St Anne's within these data limitations.
- 2.45 Table 0-3 outlines the average 2011 Census commuter journey distances travelled by residents of Brislington East and two other Bristol wards; Lawrence Hill and Bedminster. Located at a similar distance from the centre of the city and containing a local railway station, these reflect the kind of rail service provision possible at St Anne's Park.

Table 0-3: Comparison of commuter journey distances by ward

	Brislington East		Lawrence Hill		Bedminster	
	Count	%	Count	%	Count	%
Work mainly at or from home	449	8%	542	8%	513	8%
Less than 2km	1,002	18%	2,905	43%	1,667	25%
2km to less than 5km	2,354	41%	1,495	22%	2,409	36%
5km to less than 10km	858	15%	872	13%	968	15%
10km to less than 20km	669	12%	457	7%	636	10%
20km to less than 30km	74	1%	64	1%	120	2%
30km to less than 40km	46	1%	51	1%	68	1%
40km to less than 60km	67	1%	85	1%	84	1%
60km and over	164	3%	279	4%	188	3%

- 2.46 From the data, it is clear that there is very little difference between all three wards in their proportions of residents undertaking longer distance journeys to work. The total proportion of journeys of over 5km account for between 27% and 33% of commuter journeys across all locations. However, there appears a significant difference in journeys to work of under 2km and

between 2km-5km. Brislington East displays the lowest overall proportion of short commuter journeys (under 2km in length) of 18% - 7% lower than Brislington East, and a substantial 25% lower than Lawrence Hill. It appears that a larger proportion of Brislington East residents travel between 2km and 5km for work – journeys likely to take them south to Keynsham, west to the city centre, or north towards Bishopston and the UWE campus areas. The likely directions of such journeys as well as their lengths – too great for most walking journeys, limiting commuters to cycling, public transport or car modes – would support the need for additional longer distance connectivity across the city.

- 2.47 Furthermore, gaining an idea of the most popular destination and origin points for commuters can provide an indication of whether journey routes would tie into the existing rail network. Figure 0-8 and Figure 0-10 display commuter journey flow lines both outbound from St Anne's and inbound into St Anne's to connect to a range of destination/origin nodes across Bristol and the West of England respectively (using 2011 census data).

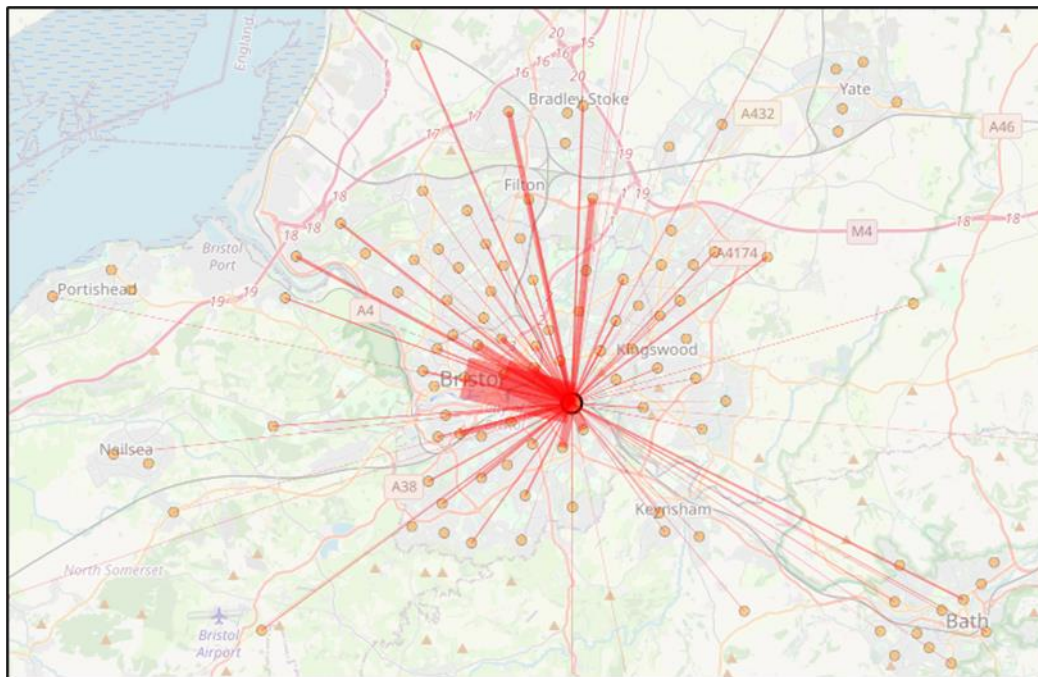
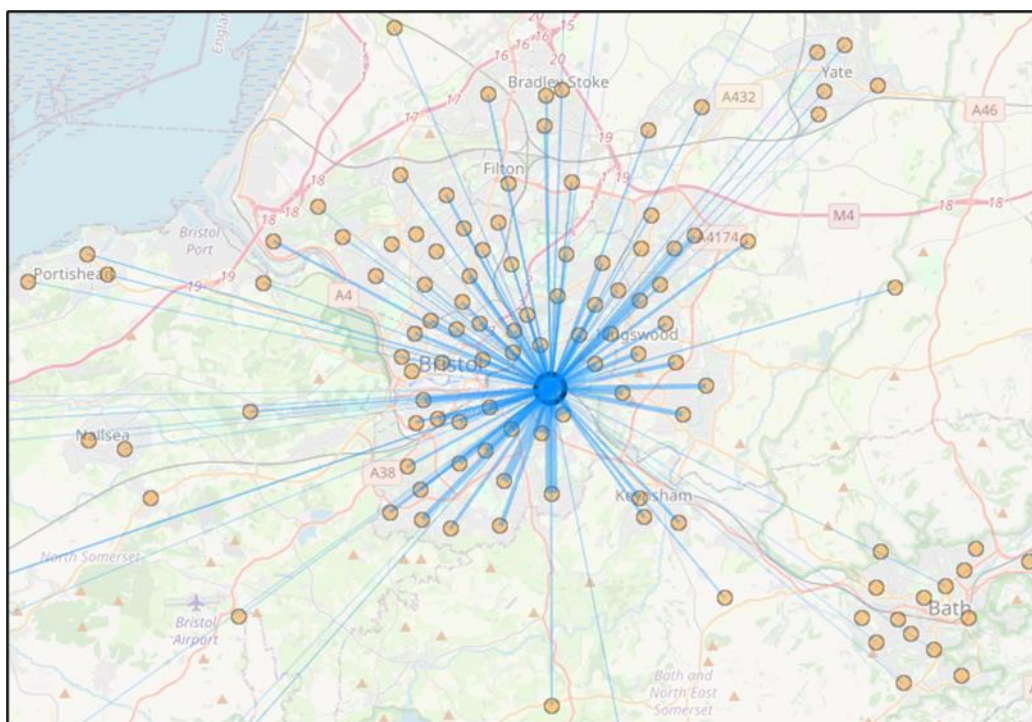


Figure 0-9: Outbound commuter journey flow lines from St Anne's to destination nodes¹⁵**Figure 0-10: Inbound commuter journey flow lines to St Anne's from origin nodes**

2.48 Table 0-4: and Table 0-5 outline the top 10 most frequented commuter destinations and origins, for journeys out of and into St Anne's respectively.

¹⁵ Oliver O'Brien & James Cheshire (2016) Interactive mapping for large, open demographic data sets using familiar geographical features, *Journal of Maps*, 12:4, 676-683, DOI: 10.1080/17445647.2015.1060183

Table 0-4: Brislington East Top 10 Outbound Commuter Flows, 2011 Census

Top 10	Destination	Area Postcode(s)	Flow	% of total outbound	Local Train Station?	Nearest Station	Switch to Rail Travel feasible?
1	City Centre, areas of Old City/Brandon Hill/Canon's Marsh and the central University	BS1/BS8/BS2	702	14%	No	BTM/Clifton Down (both c. 1.5km away)	Yes
2	Old Market, including areas of Broadmead/Redcliffe/Finzels Reach and St Philip's	BS2/BS1	533	11%	Yes	BTM (c.700m away)	No
3	No fixed location	N/A	373	7%	N/A	N/A	N/A
4	Work from home (St Anne's)	BS4	364	7%	N/A	N/A	N/A
5	St Anne's	BS4	337	7%	N/A	N/A	N/A
6	Lawrence Hill, including areas of Barton Hill	BS5	167	3%	Yes	Lawrence Hill	Yes
7	Brislington East	BS4	164	3%	No	BTM (c.3km away)	No
8	Brislington West	BS4	152	3%	No	BTM/Bedminster (both c. 3km away)	No
9	Kingsdown & Cotham	BS6/BS2/BS1	141	3%	Yes	Redland/Clifton Down (both c. 500m)	Yes
10	UWE Frenchay Campus, Stoke Gifford and Stoke Park	BS16/BS34	116	2%	Yes	Bristol Parkway (c. 1km away)	Yes
Total outbound (all flows)			4,979				

Source: Oliver O'Brien & James Cheshire (2016) *Interactive mapping for large, open demographic data sets using familiar geographical features*, *Journal of Maps*, 12:4, 676-683, DOI: 10.1080/17445647.2015.1060183

Table 0-5: Brislington East Top 10 Inbound Commuter Flows, 2011 Census

Top 10	Destination	Area Postcode(s)	Flow	% of total outbound	Local Train Station?	Nearest Station	Switch to Rail Travel feasible?
1	St Anne's	BS4	337	11%	N/A	N/A	N/A
2	Brislington East	BS4	165	5%	No	BTM (c.3km away)	No
3	Brislington West	BS4	120	4%	No	BTM/Bedminster (both c. 3km away)	No
4	Stockwood	BS14	97	3%	No	BTM (c. 4.5km away)	No
5	Hengrove	BS14	76	2%	No	Parson Street (c. 3km away)	No
6	Redfield, including areas of Whitehall and St George	BS5	70	2%	Yes	Lawrence Hill (c. 500m away)	Yes
7	Knowle & Upper Knowle	BS4	64	2%	No	Bedminster (c. 2km away)	No
8	Southville	BS3	55	2%	Yes	Bedminster (c. 1km away)	Yes
9	St George, Speedwell & Crew's Hole	BS5	54	2%	No	Lawrence Hill (c. 2km away)	No
10	Knowle West	BS4	51	2%	Yes	Parson Street (c. 1km away)	No
Total inbound (all flows)			3,054				

Source: Oliver O'Brien & James Cheshire (2016) *Interactive mapping for large, open demographic data sets using familiar geographical features*, *Journal of Maps*, 12:4, 676-683, DOI: 10.1080/17445647.2015.1060183

- 2.49 The data suggests that the principal outbound directions of flow for residents commuting from St Anne's are towards destinations around the centre of Bristol. Whilst rail travel would be possible for the short distance from a station at St Anne's Park to Bristol Temple Meads, onward and last-mile journeys would still be required to reach many destinations, especially around Hotwells and Kingsdown. It is likely that the time taken either side of the rail journey, as well as potential wait times for a train, wouldn't improve door-to-door journey times significantly for these routes when compared to cycling or bus travel.
- 2.50 Although 14% of those in employment work either at home or within St Anne's itself, 25% of outbound commuter journeys are made into the city centre and Old Market areas. The outbound top 10 destinations list represents 60% of the total commuter journeys made out of St Anne's. Of these, only destinations at Old Market, Lawrence Hill, Kingsdown & Cotham, and UWE Frenchay areas are within 1km of the nearest train station (making up 19% of total outbound trips). Whilst representing around a fifth of all outbound commuter journeys, the implementation of a new rail station could allow these c.957 residents to shift commuter modes towards rail, simultaneously removing many of these journeys from the road.
- 2.51 Strong additional flows exist from St Anne's towards the north of Bristol, with likely destinations including UWE, Aztec West and Cribbs Causeway. These northbound flows follow the line of the Severn Railway Line, with connections from a station at St Anne's Park to Filton Abbey Wood, Patchway and Bristol Parkway possible. In addition to being key commuting destinations, trips from St Anne's towards the north of Bristol also provide access to larger tertiary and further education facilities (South Gloucestershire and Stroud College, City of Bristol College and UWE). Cribbs Causeway also provides regionally significant leisure activities, supplementing Cabot Circus in central Bristol.
- 2.52 A minority of commuting flows are destined for areas fully outside of Bristol, including Keynsham and Bath. As with north Bristol, these locations also provide access to opportunities beyond employment trips, particularly Bath. The construction of a new station within St Anne's would open up links to these destinations and could encourage increased sustainable travel to/from these locations.
- 2.53 Whilst outbound flows appear much stronger on average (i.e. more residents of St Anne's travelling out of the area for work than those coming in), significant inbound commuter flows originate from areas of Bristol to the south and west of St Anne's. 16% of inbound trips are internal within St Anne's or from other areas of Brislington East, with the majority of the other top 10 origin locations located in southern parts of Bristol where there is limited existing rail provision.
- 2.54 With the inbound top 10 origins representing just 35% of the total commuter journeys made into St Anne's, a mere 6% of these (Redfield, Southville, Knowle West) are within 1km of the nearest train station. Whilst the construction of a new rail station at St Anne's Park would appear to benefit a large quantity of outbound commuter trips, it seems like wider limitations of the rail network south of the river would limit impacts on inbound modal shift. Although commuters from locations such as Bedminster could travel by rail via a change at Temple Meads, it is unlikely that rail provision across the south and south-west of the city is extensive enough to allow for significant modal shift for such inbound journeys.

Local Trip Attractors

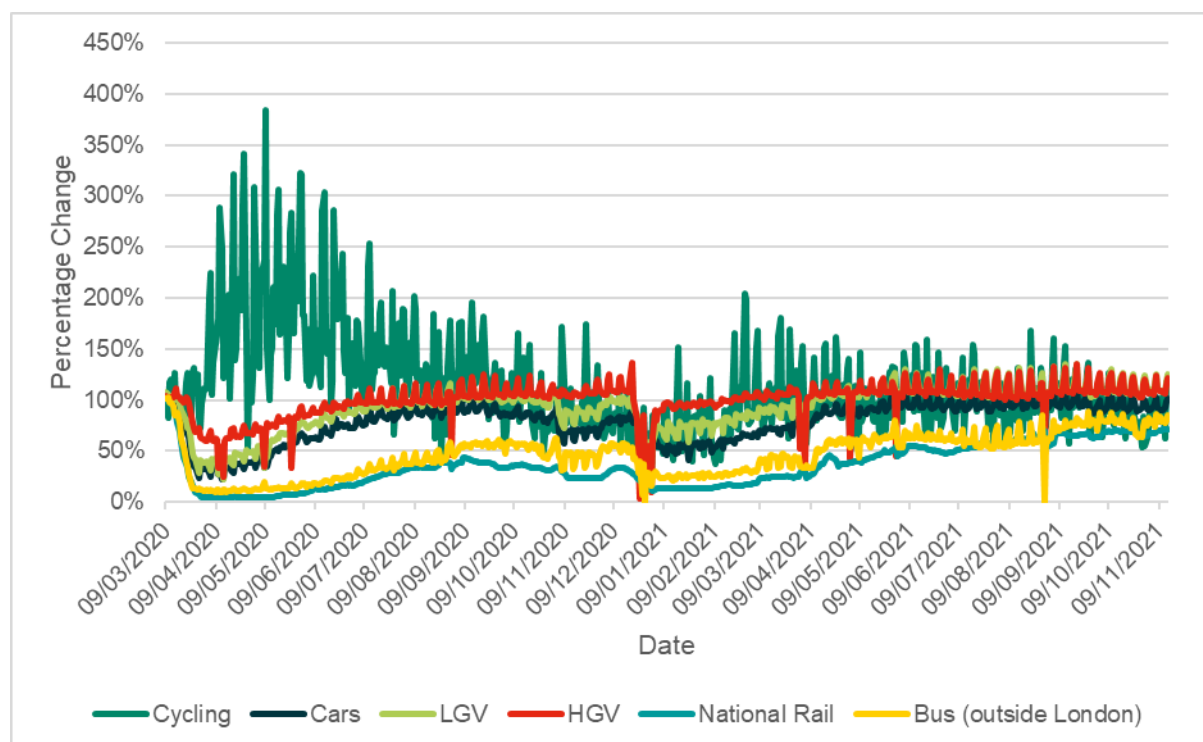
- 2.55 A number of trip attractor facilities and locations within St Anne's and its immediate vicinity might attract increased inbound journeys if a rail station were in place. The key areas of interest are listed below, with their locations summarised:
- **Education:**
 - St Anne's Infant School: Located within central St Anne's, just south-west of St Anne's Park. Capacity of 262 students¹⁶

¹⁶ <https://www.gov.uk/guidance/get-information-about-schools>

- The Kingfisher School: Located within central St Anne's, just east of St Anne's Wood. Capacity of 240 students¹⁷
- **Industry:**
 - Temple Quarter developments constructed/planned around Temple Meads and St Philip's Marsh (to the west of St Anne's).
- **Retail:**
 - Avonmead shopping park: located north of St Philip's Causeway, to the west of St Anne's and the River Avon
- **Culture:**
 - St Anne's House: Community space which also hosts wider events such as the Palace International Film Festival, "an LGBTQIA+ film festival experienced through multi-disciplinary performances, workshops and panels from local Bristol and international queer artists"¹⁸. Located within central St Anne's, just north of St Anne's Park
- **Nature:**
 - St Anne's Wood and Nightingale Valley: Public green spaces running through the centre of St Anne's down into Brislington.

Covid-19 Travel Demand Impacts

2.56 The Covid-19 pandemic has changed travel behaviour and the extent to which these behaviour changes are maintained into the future is yet to be seen. At a Great Britain geography, travel estimates are available from the Department for Transport. These show that much of the active travel increases observed during the 2020 and early 2021 lockdowns were returning to pre-pandemic levels by November 2021. Although weekday car use was only down by 10% relative to pre-pandemic levels, National Rail and bus (outside of London) use only returned to approximately two thirds of pre-pandemic levels.



¹⁷ <https://www.gov.uk/guidance/get-information-about-schools>

¹⁸ <https://visitbristol.co.uk/whats-on/the-palace-international-film-festival-2021-p2991743>

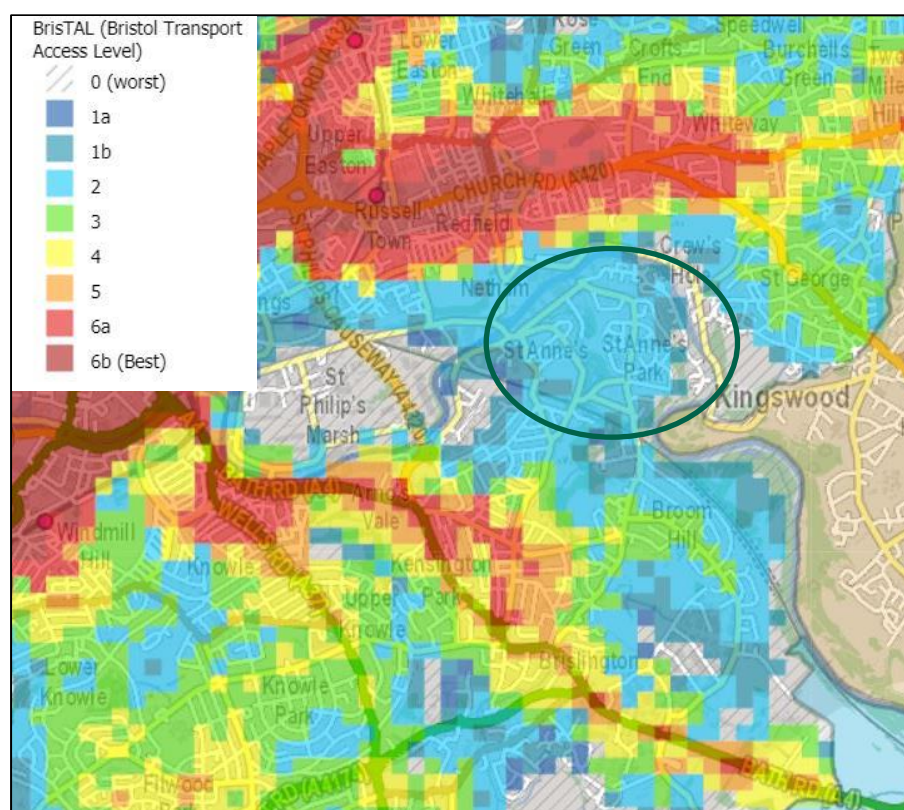
Figure 0-11: Great Britain Transport Use Compared to Baseline (09/03/2020 - 14/11/2021)¹⁹

- 2.57 The nature of travel changes amongst different demographics also adds uncertainty to estimated travel demand, particularly in relation to employment and retail. Many employment sectors, such as retail, hospitality and manufacturing are predominantly unable to work remotely. A recent study supporting the Union Connectivity Review noted that in April 2020, at the height of the first UK lockdown, only 47% of people did at least some of their work from home²⁰. Providing transport connectivity options to many key destinations, including education and employment locations such as Avonmouth, is therefore likely to be critical in any post-Covid future.

2.3.2 Existing Transport Situation and Issues

Public Transport Overview

- 2.58 St Anne's is currently poorly served by public transport, in particular rail services, despite its large population (approx. 12,000). The 'Bristol Transport Access Level' (BrisTAL) is a measure of public transport connectivity within the City of Bristol, showing the density of public transport services and stops, by combining the walk time to the stops, the number of stops and the frequency of services. It includes bus (including Metrobus) and rail services for its calculations. Figure 0-12 shows an extract of the most recent BrisTAL mapping (June 2021), which includes the extent of the study area.

**Figure 0-12: BrisTAL Transport Accessibility Mapping (Extract taken from Pinpoint, St Anne's area outlined)²¹**

- 2.59 Covering the entire study area, the BrisTAL mapping highlights the current low levels of accessibility to public transport across St Anne's, with the entire suburb scoring a 2 or lower (the lowest 4 categories of accessibility). Whilst there appears to be some, albeit limited, accessibility across the Western, Southern and Northern areas of St Anne's, the Eastern edge along the River Avon scores 0 on the BrisTAL scale (the worst possible level of public transport

¹⁹ <https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic/covid-19-transport-data-methodology-note>

²⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1034734/union-connectivity-review-analytical-report.pdf

²¹ Bristol City Council (2021) <https://maps.bristol.gov.uk/pinpoint/> (under 'Transport and Streets' layers)

provision), reflecting the significant distances involved for residents wishing to use existing rail or bus services.

- 2.60 Despite its relative proximity to the Bristol's city centre, a high proportion of St Anne's and Brislington residents drive frequently, especially for commuting purposes. Data collected from the 2011 census indicates the strong bias for driving to work shown across the Brislington East ward (as outlined within Figure 0-13). Forty-three percent of residents were shown to work either using a car or van (with an additional <1% using a motorcycle, scooter or moped). It should be noted that the data displayed includes the 28% of Brislington East residents who were not in employment as of the 2011 census, as well as 3% of residents working predominantly from home. With these non-working or static residents removed from the dataset, percentage use of cars or vans across total journeys to work increases to 62%.

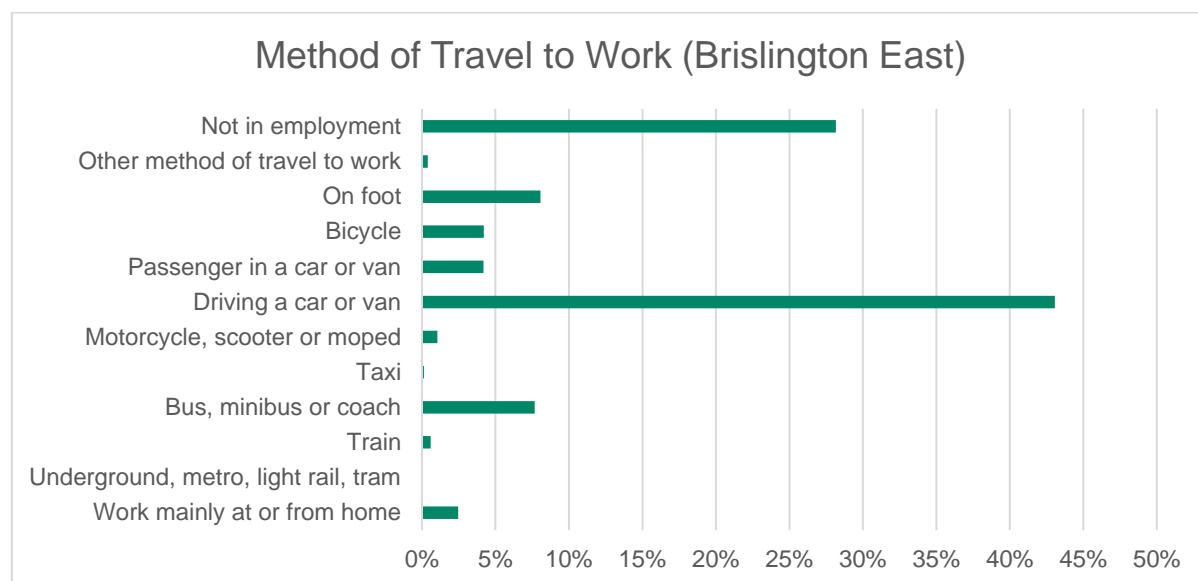


Figure 0-13: Mode of Travel to Work for residents of Brislington East (2011 Census Data, NOMIS)

- 2.61 In turn, usage of public transport for commuting journeys is low across Brislington East. With non-working residents and those working from home again excluded, a mere 1% of existing journeys to work are made by train, with 11% of residents using a bus, minibus or coach. Whilst 18% of journeys are made via active travel means (c.6% by bicycle, and 12% by foot), there appears to be a significant opportunity for increasing public transport usage across the area, if appropriate and efficient options are implemented.

Rail

- 2.62 Great Western Rail (GWR) links Bristol and the West of England region with inter-city trains to London, South Wales and the South West, alongside regional services between South Wales and the south coast. CrossCountry provides inter-city services to the Midlands, the North, Scotland and Cornwall.
- 2.63 Prior to the Covid-19 pandemic, the rail network covering the West of England region had been experiencing sustained annual growth, with 40% more passenger journeys and 60% more freight on the network than 10 years previously²². The Office of Rail and Road's (ORR) published passenger trip figures show a 124% increase in journeys made within the West of England and the South West in the 15 years prior to 2018/19²³. In turn, there has been a 62% increase in passenger journeys made between the West of England and other regions of the UK over the same period. As displayed in Figure 0-14, for both journey types, there have been steady increases in total journeys made by rail since 2003-04, an indication of the pre-Covid demand pressures being placed on the existing network across the West of England area.

²² www.greaterbristolrail.com

²³ <https://dataportal.orr.gov.uk/statistics/usage/regional-rail-usage/>

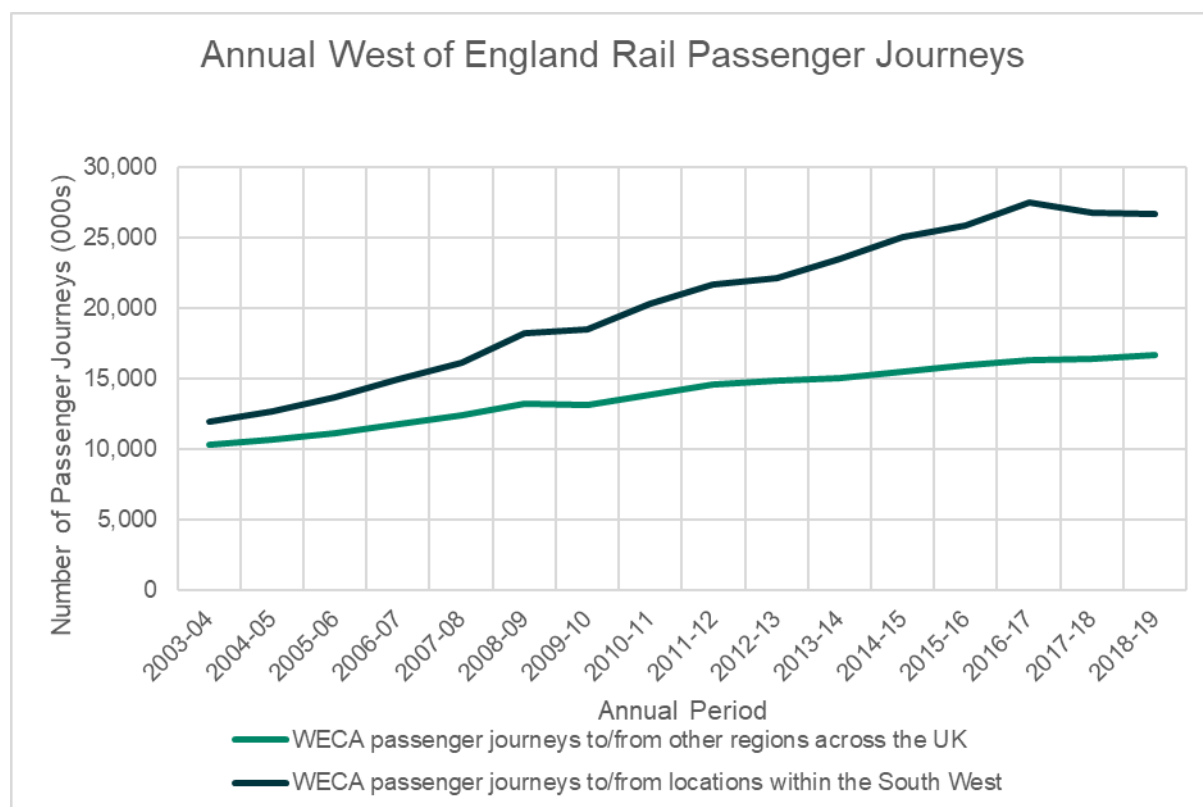


Figure 0-14: Annual passenger journeys made both within and to/from outside the South West region (ORR, 2019 dataset)²⁴

2.64 Pre-Covid forecasts suggested that the growth trend would continue on some routes, with rail growth between Bristol and London predicted to increase by around 50% by 2025²⁵. However, as introduced earlier, the societal response to the Covid-19 pandemic has resulted in a significant reduction in passengers across the rail network. For context, rail use at stations across the WECA reduced by approximately 80% between April 2020 and March 2021 (Table 0-6).

Table 0-6: ORR Station Entries and Exits Covid Analysis²⁶

Station Groupings	2019/20 to 2020/21 Change
Main stations (Bristol Temple Meads, Bristol Parkway & Bath Spa)	-82%
Severn Beach Line ¹	-73%
Other Bristol City urban stations ²	-72%
Bath & North East Somerset stations (excluding Bath Spa)	-80%
North Somerset Stations	-77%
South Gloucestershire stations (excluding Bristol Parkway)	-83%
All West of England Stations	-81%

Notes: Data covers from April to March in each year.

¹ Excludes Lawrence Hill and Stapleton Road stations

² Parson Street, Bedminster, Lawrence Hill and Stapleton Road stations

²⁴ <https://dataportal.orr.gov.uk/statistics/usage/regional-rail-usage/>

²⁵ www.greaterbristolrail.com

²⁶ <https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage>

- 2.65 Bristol Temple Meads is a central hub for local and regional transport interchange, receiving over 11 million passengers per year from 2016 to 2020²⁷, with pre-Covid forecasts expecting patronage to double by 2030. WECA's 10-year rail delivery plan outlines ambitions to redevelop the Temple Meads station to create additional northern/eastern entrances, improve internal circulation and potentially widen two platforms, with the eastern entrance committed by 2025²⁸. In addition, delivery plan commits to remodelling the Bristol East Junction to further increase overall capacity at the core of Bristol's rail network.
- 2.66 Extensive development in the area around Temple Meads station is also being progressed, including a new Bristol University Campus planned for completion by 2025²⁹, with access to the station provided by the additional eastern entrance. The new campus and wider regeneration developments at Bristol Temple Quarter³⁰ will serve to increase demand for rail journeys into Temple Meads from across the city and wider West of England region. It is important for the rest of the city's rail network to expand in line with Temple Meads, in order to allow for increased patronage across the city and for local and regional journeys in particular.
- 2.67 **Error! Reference source not found.** outlines the high-level catchment areas for rail stations across Bristol, as well as a potential catchment for a station at St Anne's. Two catchment zones have been identified for each station: an 800m zone³¹, reflecting relatively easy accessibility by active travel modes, and a wider 2km zone of attraction for areas outside of any immediately accessible rail services³². Whilst the prevalence of more central stations reduces the impact of a new station to the north and west of St Anne's, the current lack of any current station between Temple Meads and Keynsham results in significant areas of St George and Brislington falling within a 2km zone for the first time with inclusion of St Anne's station.

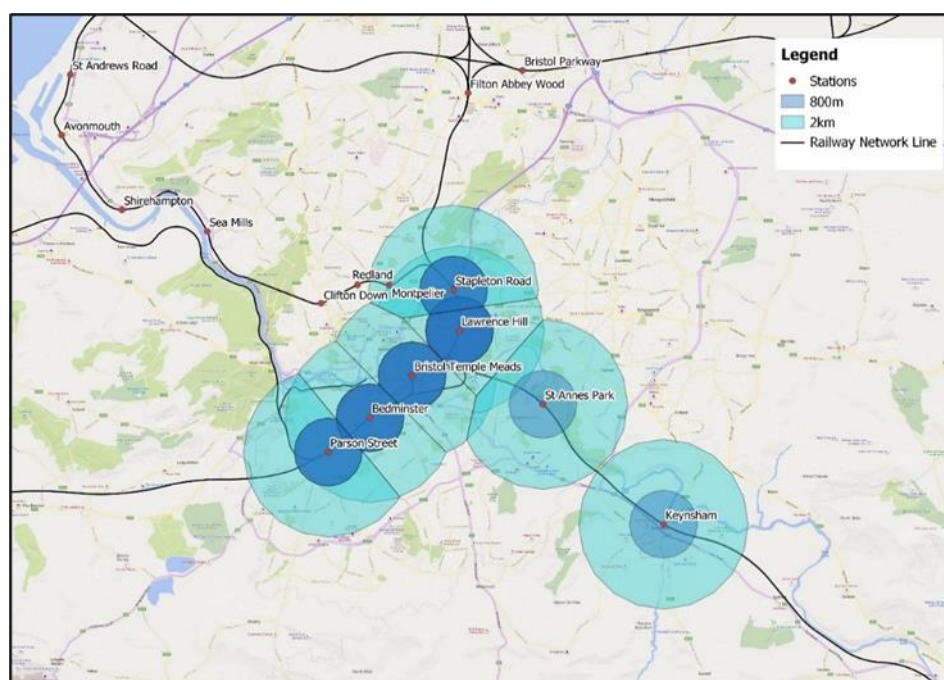


Figure 0-15: 800m and 2km catchment areas for stations across Bristol and Keynsham

- 2.68 As noted in the 2016 UWE study, is likely that a new station at St Anne's Park would serve the 12,000 (approx.) residents within St Anne's, as well as additional numbers from both northern Brislington and St George³³.
- 2.69 As discussed above, St Anne's and the wider Brislington area have very limited existing access to rail facilities. Bristol Temple Meads represents the nearest existing station to the area, taking

²⁷ <https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage>

²⁸ <https://www.westofengland-ca.gov.uk/wp-content/uploads/2021/03/10-Year-Rail-Delivery-Plan.pdf>

²⁹ <https://www.bristol.ac.uk/news/2021/april/tqec-update-april-2021.html>

³⁰ <https://www.bristoltemplequarter.com/>

³¹ As adopted in urban planning documents, such as the 2021 London Plan

https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf

³² Representing an approximately 30 minute walk (using [TRL Study, 2014](#)) or 7 minute cycle (using [LTN 02/08, p. 41](#))

³³ UWE study (2016)

anywhere from 30 to 50 minutes walking time to access from points to the west and east of St Anne's respectively (an average of 2.3 miles). By comparison, a public transport journey would take approximately 30 minutes from either location and involve a walk of at least 10 minutes, with car travel typically taking between 10 to 20 minutes depending upon the time of day.

- 2.70 Reopening a station at St Anne's would contribute towards these rail growth ambitions, by providing a station in a previously underserved area of the city. Figure 0-16 outlines how a new St Anne's station would fit into the wider existing West of England rail network. Whilst inter-city services to London would be likely to pass through the station, it would provide a useful stopping location for local services between Bristol Temple Meads and Westbury via Bath Spa.
- 2.71 A new station at St Anne's would provide the potential to connect to the Avonmouth/Sevenside Enterprise Area via Severn Beach Line, with two services per hour provided by the December 2021 timetable updates. In addition, connections to employment areas in northern Bristol could also be made, via Filton Abbey Wood. Following the implementation of the MetroWest Phase 2 project, connections could also be made to the former Filton Airfield mixed-use development areas, including the proposed 'Brabazon Arena'.

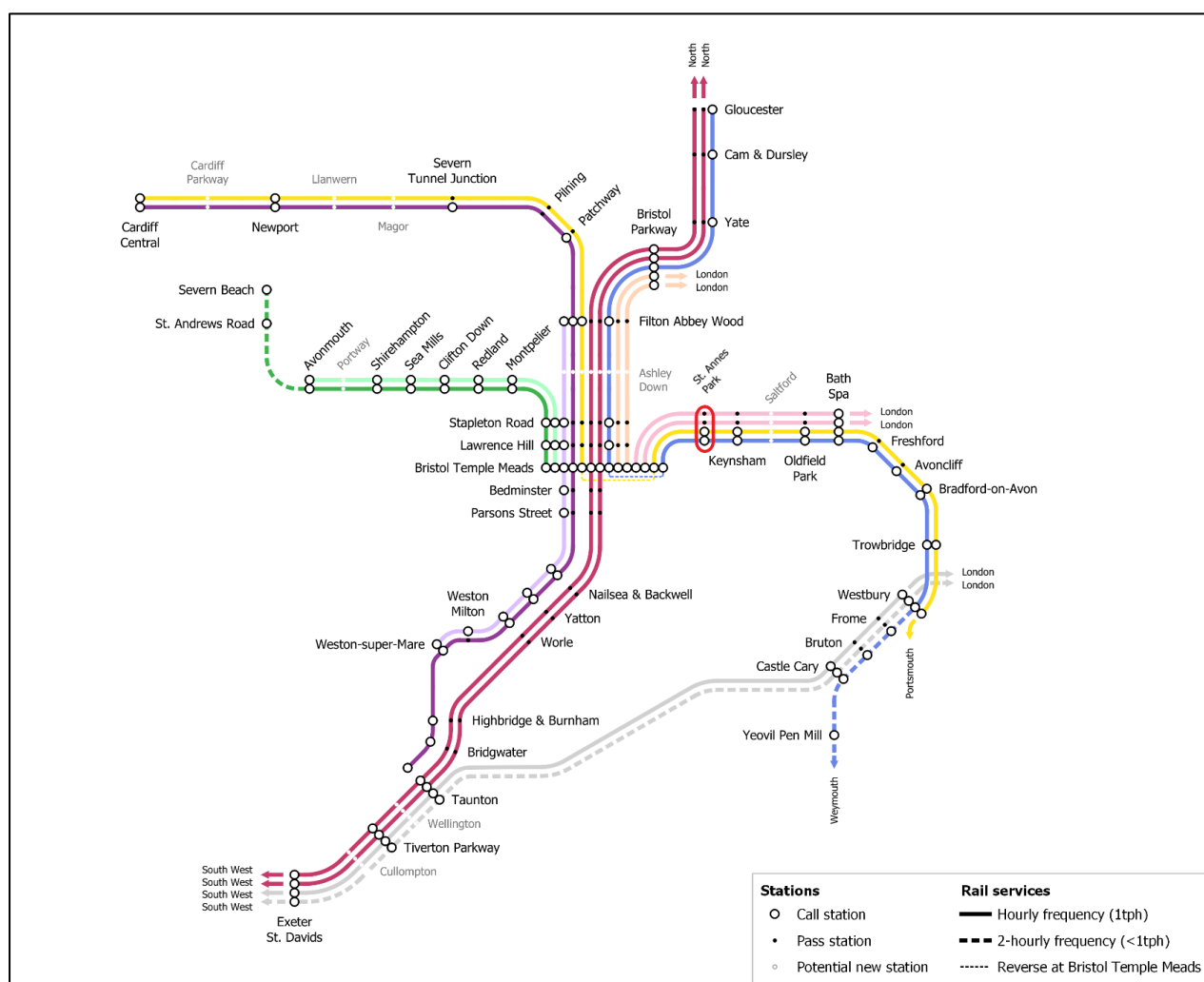


Figure 0-16: The West of England Rail Network alongside key regional and national destinations

Comparator Station Usage

- 2.72 Across Bristol, a network of existing local stations provides origin and destination points for a range of journey lengths in and out of the city, connecting local areas and residents to both the local, regional, and national rail networks. A reopened station at St Anne's Park would perform a similar role within the network and would likely serve a combination of short and longer distance journeys.

2.73 Using ticket sales data obtained from Moira, the rail forecasting tool, demand flows to or from 6 local stations have been gathered to highlight levels of transport demand across the city and WECA, in order to reflect the types of journey demand that could be expected of a St Anne's Park station. These stations all serve differing communities, four of which lie within the city of Bristol:

- **Stapleton Road:** Located on the Severn Beach Line and Cross County Route, Stapleton Road station serves the communities of Eastville, St Werburgh's, Greenbank and North Easton (c. 2.6km from Bristol Temple Meads);
- **Redland:** Also located on the Severn Beach Line, Redland station serves the districts of Cotham and Redland (c. 5.3km from Temple Meads);
- **Parson Street:** Serving the communities of Ashton, southern Bedminster and Knowle West, Parson Street station is located on the principal line connecting Bristol Temple Meads with the South West (c. 3.2km from Temple Meads); and
- **Lawrence Hill:** Located on the Severn Beach Line and Cross County Route, Lawrence Hill station serves the inner-city districts of Easton and Lawrence Hill (c. 1.6km from Temple Meads).

2.74 In turn, two stations are located outside of Bristol to the East:

- **Keynsham:** Located on the Great Western Main Line, the station serves the town of Keynsham as a key stop on the route between Bristol and Bath; and
- **Oldfield Park:** Also located on the Great Western Main Line, Oldfield Park predominantly serves the residential areas of southern Bath.

2.75 It should be noted that whilst five of the stations are predominantly accessed via active travel methods (walking and cycling), Keynsham station has large car parking capacity, and so its average usage is significantly higher than the rest (with the area being served therefore much larger than merely walking distance).

2.76 Flow data was collected for the year ending September 2019, including both weekends and weekdays. It should also be noted that this data represents pre-Covid 19 pandemic statistics; the earlier analysis (Figure 0-11) suggests that usage trends and demands have altered as a result of the pandemic. However, this 2019 flow data has been selected to provide context of pre-COVID 'normal' travel patterns.

2.77 Figure 0-17 displays the total usage for each of the six stations over the course of September 2019. As noted, Keynsham shows the highest demand, with over half a million journeys made throughout the period. The four local Bristol stations show much lighter usage, with Redland experiencing just over half the total flows of the other 3 stations.

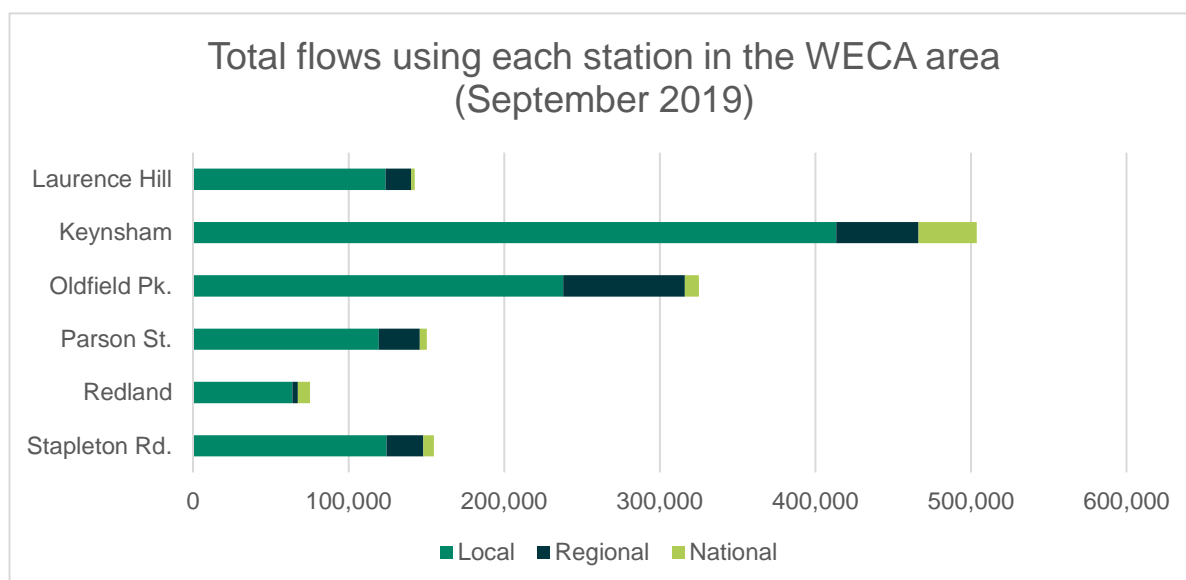


Figure 0-17: Total use of each station within WECA area

- 2.78 In turn, the proportions of local, regional and national journeys being made into or from each station is illustrated for each. For all 6 stations, local trips (defined as being made within the WECA area) represent the largest share of demand, averaging around 81% of total trips. Regional trips (those made to or from stations within around an hour travel time from the WECA stations) average around 14% of trips, whilst long-distance, national journeys made up only 5% of trips.
- 2.79 Following this trend, a reopened station at St Anne's would likely follow a similar trend of journey demand and usage, predominantly replacing existing local journeys made to and from St Anne's to other areas of Bristol and the surrounding WECA area.

Local Rail Preferences

- 2.80 The Friends of Suburban Bristol Railways (FoSBR) are a campaign group formed in 1995 by local people pushing for rail to represent the core of an integrated transport network across the West of England region. In August 2021 they published the results of a survey undertaken to find out how local people would use a new train station at St Anne's³⁴. It should be noted that responses are limited in number, with just over 100 responses received, and may be more likely to be from those with a vested interest in supporting or opposing the proposed scheme. They do provide a snapshot of local demand however with 87% of respondents living in either BS3 or BS4 postcodes and will indicate the ways in which the station might be used.
- 2.81 When asked how frequently they would use a station in St Anne's, over 60% of respondents stated that they would use a new station at least once a week, with 26% planning to use it daily. In turn, when asked how they would travel to and from the station, over 90% stated that they would walk, highlighting the potential for reductions in car usage across the local area.
- 2.82 Over 75% of respondents stated that they currently make the majority of journeys that could be made on the rail network by private motor vehicle. Whilst the introduction of the station would not guarantee modal shift for all of these journeys, it would provide greater opportunities for local people to use reliable and efficient public transport.

Bus

- 2.83 With much of St Anne's bounded by the River Avon on three sides and requiring a detour from the main highway routes to the city centre, effectively serving the suburb by commercial bus services is challenging. Currently, only one bus service (no.36) connects the area with the city centre. The 36 service has a 30-minute frequency and does not connect to Bristol Temple Meads station, instead routing via Lawrence Hill to the City Centre. Low bridges on the road approaches to the station also create challenges for operating bus services to the east of the station, meaning that connectivity to rail services further afield is limited.
- 2.84 In addition, there are no direct bus services to northern Bristol. Bus passengers are currently required to change buses in the city centre, with journey times of up to an hour from St Anne's to education, employment or retail locations such as the City of Bristol College/UWE, Ministry of Defence Abbey Wood and Filton Retail Park/Abbey Wood Shopping Park.
- 2.85 Figure 0-18 and Table 0-7 outline the existing bus services within and in the vicinity of the St Anne's area and the routes of First Bus services. Whilst six bus services provide connections near or into the area, only two of these – numbers 1 and 36 – provide a frequency higher than hourly from Monday to Friday. It should be noted that the number 1 service (connecting to the north of the city) only passes to the south of St Anne's. As such, the number 36 service represents the only existing bus to pass through the central areas of St Anne's, providing appropriate accessibility for commuting journeys, despite a limited, half-hourly frequency.

³⁴ <https://fosbr.org.uk/st-annes-station-survey/>

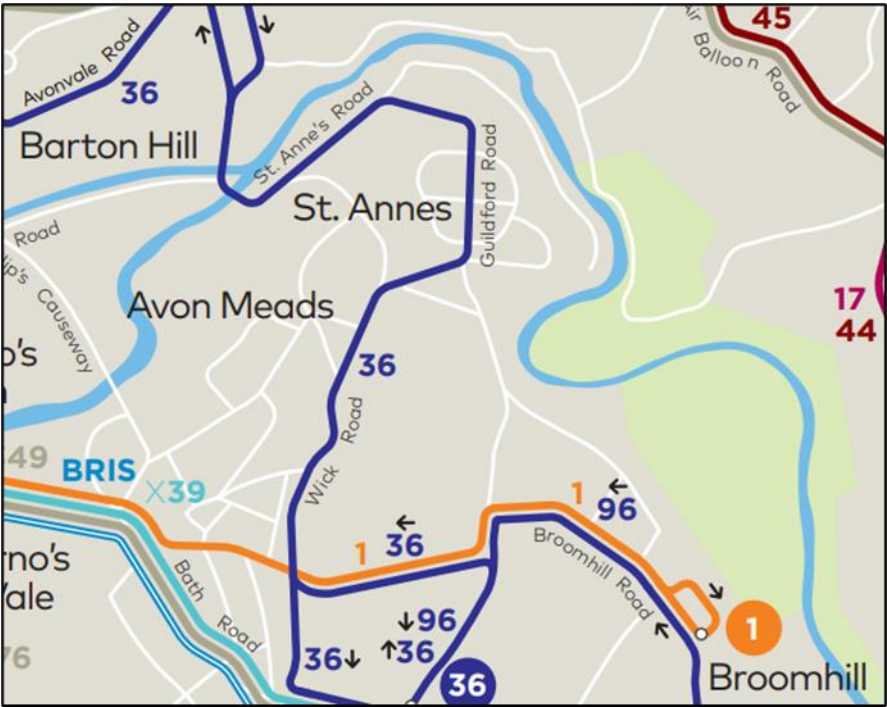


Figure 0-18: First Bus service routes through the St Anne's area³⁵

Table 0-7: Bus services stopping within St Anne's

Bus service	Provider	Bus Route	Frequency		
			Monday - Friday	Saturday	Sunday
1	First Bus	Cribbs Causeway - Broom Hill	every 12 minutes	every 15 minutes	every 20 minutes
36	First Bus	Bristol City Centre - Brislington	Every 30 minutes	Every 30 minutes	Every 70 minutes
96	First Bus	Brislington - Hengrove Depot	Every 2 hours	Every 2 hours	No service
435	Traveline	Keynsham - Brislington	once a day	No Service	No Service
513	Stagecoach	Knowle - Brislington	Every Hour (Tues, Thurs), 09:00-15:00	No Service	No Service
514	Stagecoach	Knowle - Brislington	Every Hour (Mon, Wed, Fri), 09:00-15:00	No Service	No Service

2.86 Whilst bus use only represents an 8% share of existing commuter journeys, the nature of the service routes available confines the majority of these journeys made towards the city centre (as displayed within Figure 0-19). With the rail network linking a station at St Anne's Park directly to Bristol Temple Meads, any modal shift towards increased rail usage could potentially involve abstraction from existing bus patronage to some key destinations, such as the Temple Quarter Enterprise Zone. There is currently a large degree of road infrastructure in place across Brislington to prioritise bus travel through the area (although much of it is along the A4 outside

³⁵ <https://www.firstbus.co.uk/bristol-bath-and-west/routes-and-maps/network-maps>

of St Anne's), as well as across the wider area. Whilst there is strong potential for rail and bus services to operate alongside one another to facilitate multi-modal journeys, the impact of a new St Anne's Park station on alternative public transport must be considered, with potential reductions to the operational effectiveness of the bus network.

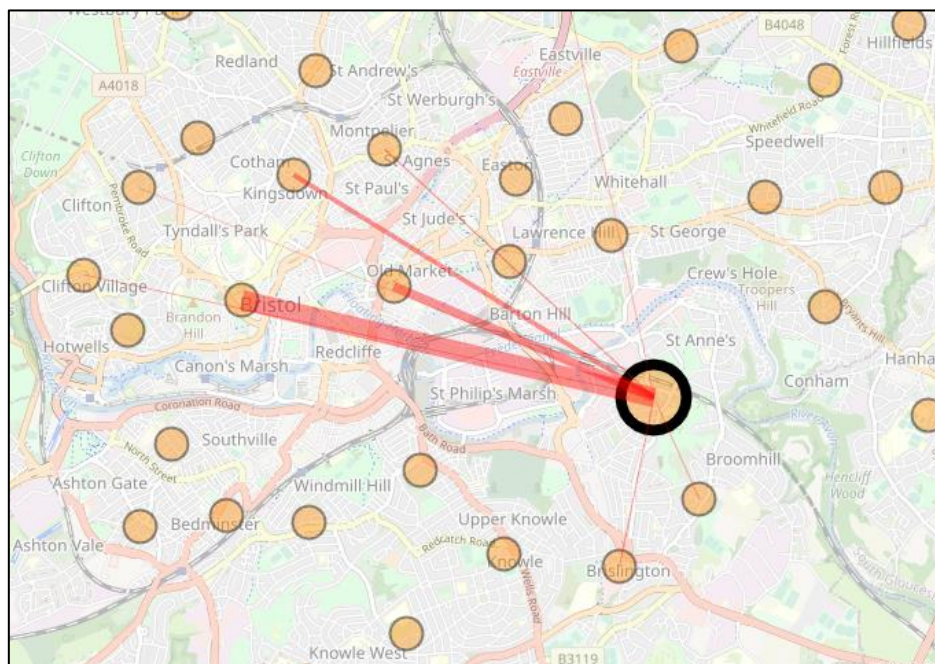


Figure 0-19: Demand flows for commuter journeys made by bus from St Anne's (Census, 2011)³⁶

- 2.87 As part of Bristol City Council's Quality of Life survey 2020-21, respondents were asked if they were satisfied by local bus service provision. Within Brislington East, a mere 37% of residents responded that they were satisfied, 20% lower than the city-wide average (57%)³⁷.
- 2.88 Data has been provided by First Bus in relation to bus delays and passenger levels across St Anne's between September and December 2018. Figure 0-20 and Figure 0-21 show the level of bus delay during both AM and PM peak times. Delay here is measured as the difference between the fastest and slowest weekday median pace (in seconds per metre) within the time period.

³⁶ Oliver O'Brien & James Cheshire (2016) Interactive mapping for large, open demographic data sets using familiar geographical features, *Journal of Maps*, 12:4, 676-683, DOI: 10.1080/17445647.2015.1060183

³⁷ http://167.71.132.100/wards/brislington_east/quality_of_life2

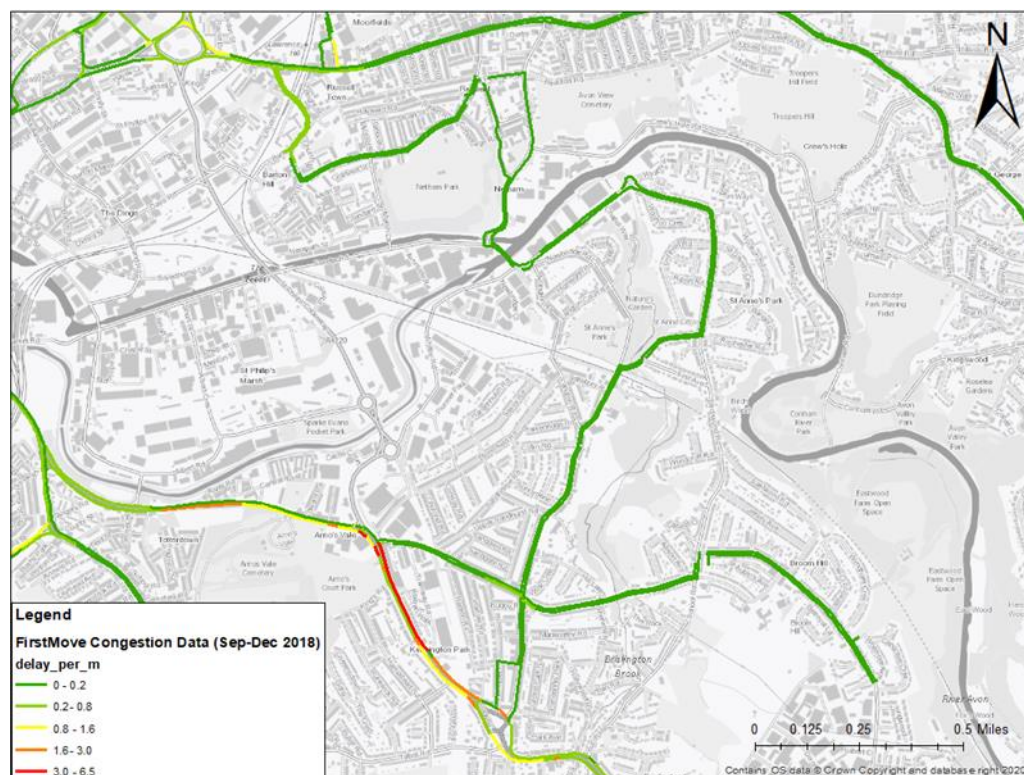


Figure 0-20: St Anne's Bus Delay - AM Peak, FirstBus Data (2018)

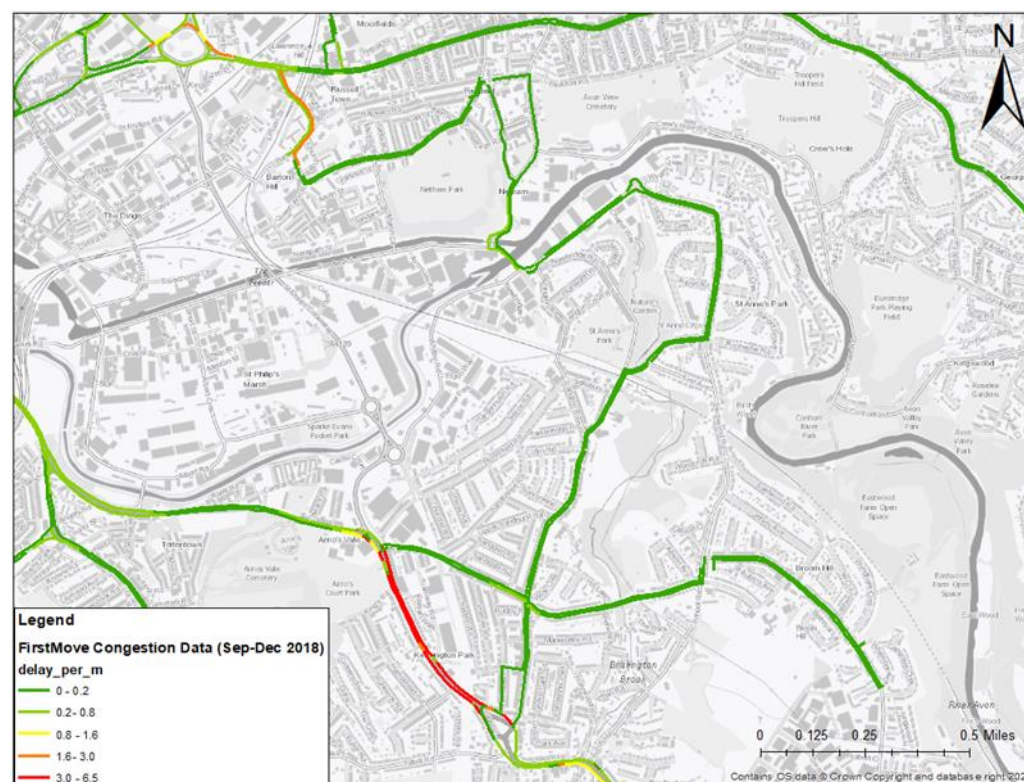
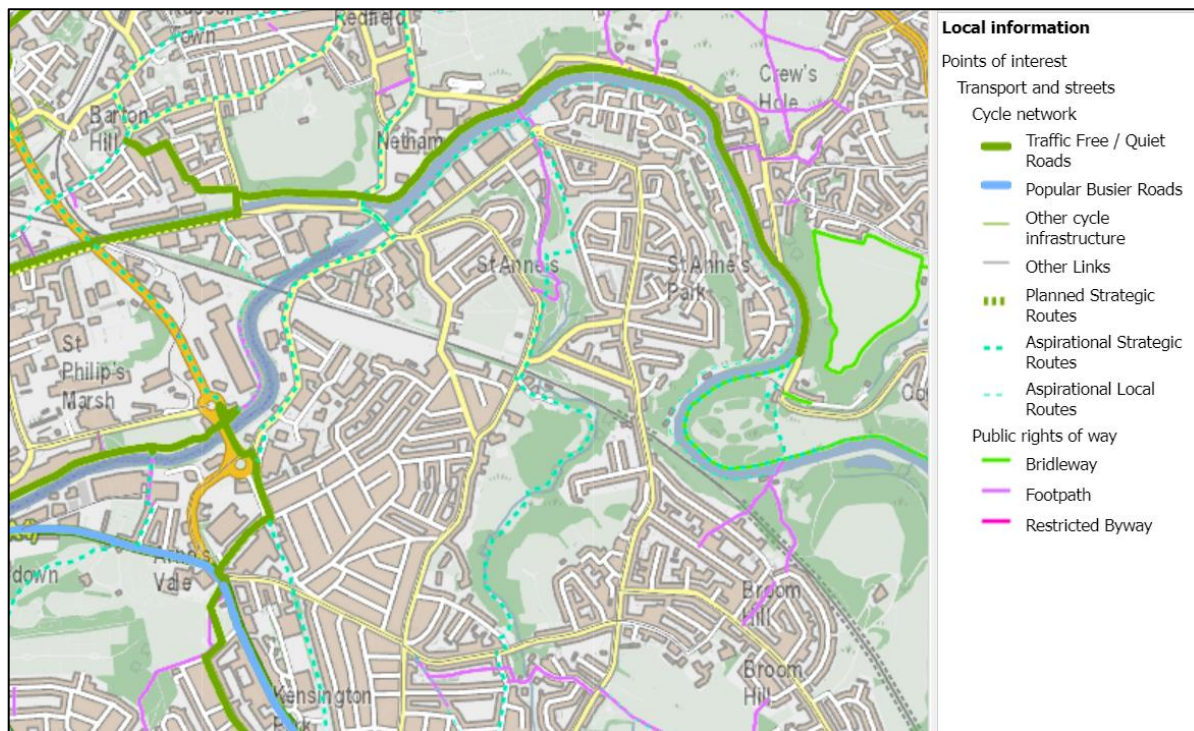


Figure 0-21: A4 Corridor Bus Delay – PM Peak, FirstBus Data (2018)

2.89 Both figures show that buses experience significant delay along the A4 corridor running to the South West of St Anne's. The most severely delayed buses are shown in the AM peak in the southbound direction, with the most severely affected section of road being between Sandy Park Road and Wick Road junctions. Whilst the bus route running through St Anne's experiences the lowest level of delay in both AM and PM peaks, delays along the A4 likely cause knock-on disruption to the timetable for this route, negatively impacting on journey reliability for St Anne's bus patrons.

Active Travel

2.90 The infrastructure provision in St Anne's means that, in some locations within the north of the suburb, active travel connectivity to other areas of the city is relatively attractive in comparison to other modes.



2.91 Figure 0-22 presents an overview of the key active travel networks around St Anne's.

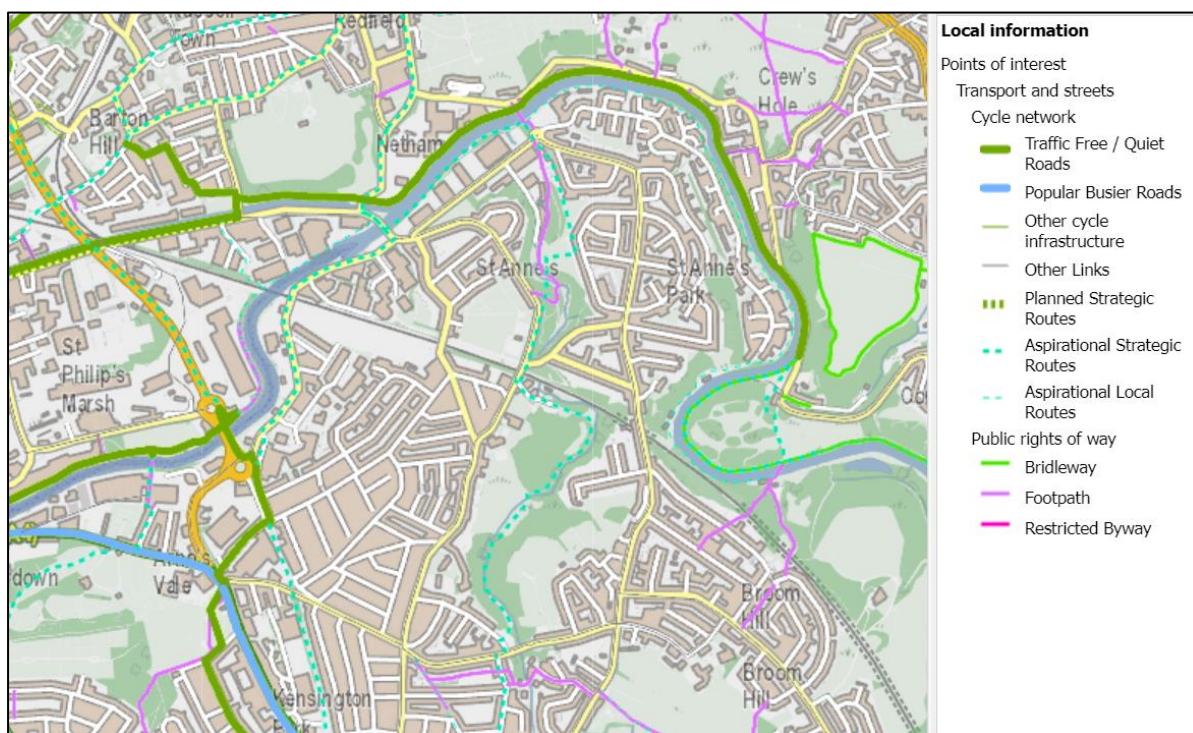


Figure 0-22: Active Travel Network Overview

2.92 TRACC analysis has been undertaken to present a more detailed picture of active travel catchments to/from St Anne's. This analysis also represents potential catchments for local residents who may access a reinstated station by active travel modes. Figure 0-23 and Figure 0-24 display the outputs from this analysis of local accessibility, with heatmaps outlining bands of walking and cycling distances up to 25 mins away. For each time band, cumulative

population is given, providing an idea of the spatial distribution of residents within the wider catchment.

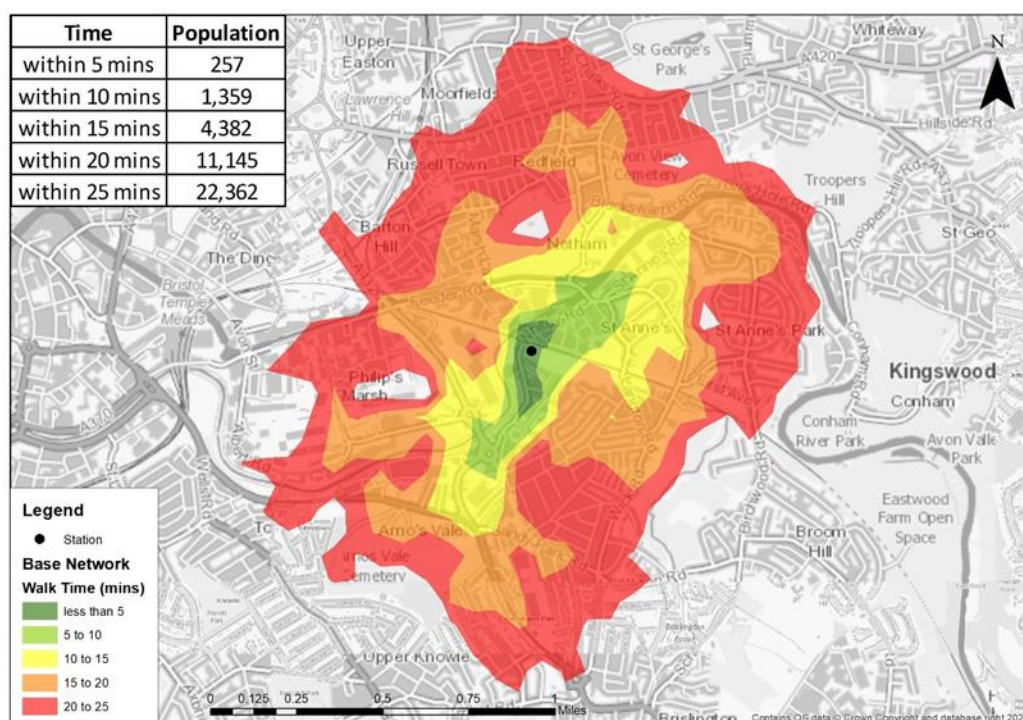


Figure 0-23: St Anne's walking catchment area, for walking journeys of under 25 minutes

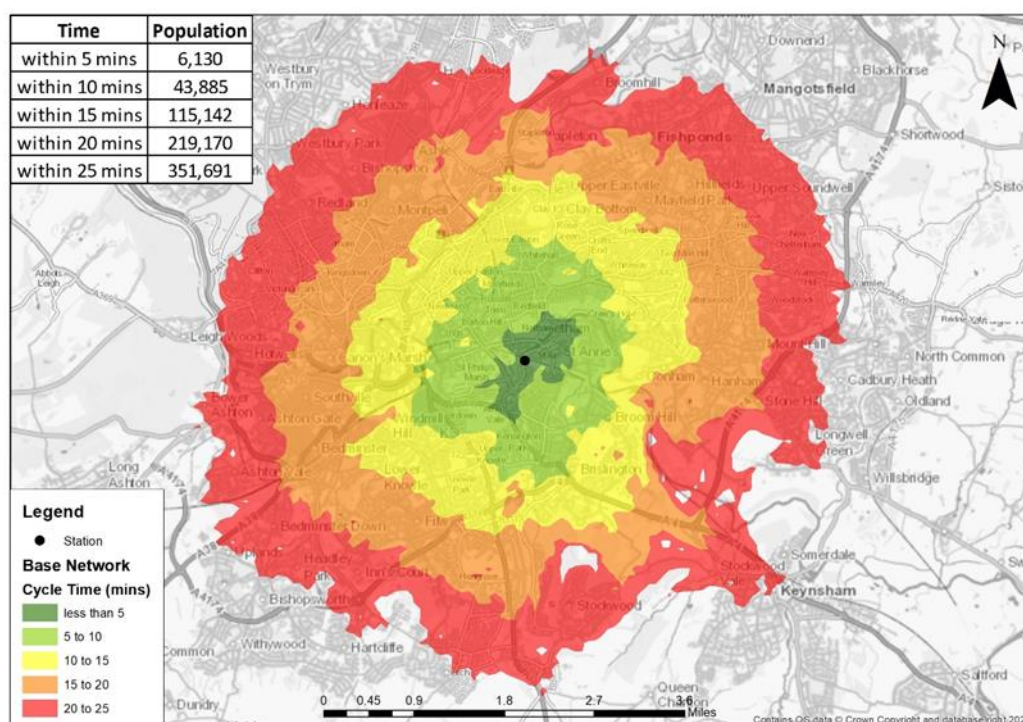


Figure 0-24: St Anne's cycling catchment area, for cycle journeys of under 25 minutes

2.93 For walking accessibility, around 22,000 residents live within 25 minutes' walk from the potential station. This covers the majority of the St Anne's area and some of northern Brislington, whilst also spreading north into areas of Redfield and St Philip's Marsh. In turn, for cycling accessibility, just over 350,000 residents live within 25 minutes cycle of St Anne's (an area covering the majority of central Bristol). It should be noted that these cycle catchment figures

would likely represent an over-estimation of potential users of a station at St Anne's Park, with all residents within each catchment included despite some residing closer to existing stations.

Car-based Travel

- 2.94 The West of England region has a reasonably comprehensive local and strategic road network. However, major arterial routes across the local and strategic road networks are regularly congested. There are very heavy traffic volumes on the M4 and M5 motorways, due to longer distance traffic and increased local movements. On the M4 Junction 18 to 20 including the Almondsbury junction with the M5 has particularly heavy volumes and on M5 there are major hot spots between junction 18 and 19 (Avonmouth Bridge) and at junction 21. There is also heavy traffic on the M32 and other radial routes including the A4 Bath Road and A4 Portway, reflecting heavy commuting into Central Bristol (Figure 0-25).

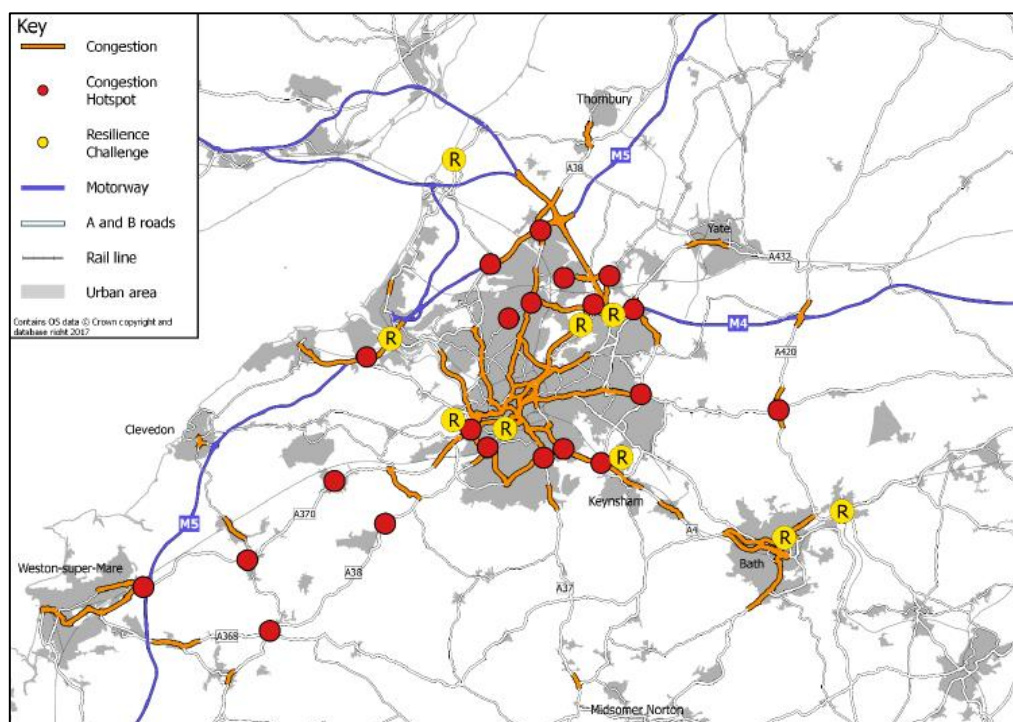


Figure 0-25: Congested Corridors and Hot Spots across the West of England³⁸

- 2.95 As shown in Figure 0-25, network resilience is an increasing challenge across the West of England. The key locations where network resilience is a problem are particularly vulnerable when traffic accidents or other incidents occur, causing widespread disruption across the wider network as the local road network quickly becomes saturated with diverted traffic. For example, in addition to the very heavy traffic volumes on major local routes, the occurrences of major incidents on the M5 in particular are increasing. Data published by Inrix in 2016 suggested that the West of England is the sixth most congested city region in the UK, after London, Edinburgh, Glasgow, Birmingham and Manchester. In the Inrix report, the West of England had a recorded 619 traffic hot spot incidents over 12 months, with the worst recorded incident at J20 on the M5 resulting in 15-hour delays affecting a 36-mile area.
- 2.96 In addition to providing journey time and resilience concerns, congestion on the local road network in the area is also contributing to the poor levels of air quality in the West of England. There are several Air Quality Management Areas at locations whereby legal limits for air pollution are exceeded within the region (Figure 0-26), with road traffic commonly accepted to be a major source of the issues in many of these areas. As noted in Section 2.2.3, analysis undertaken for the 2019 Bristol Transport Strategy estimated that approximately 300 deaths a year (8.5% of all deaths) were attributable to air pollution.

³⁸ <https://www.bristol.gov.uk/documents/20182/33167/Joint+transport+study/a34b16f2-821f-cc04-51f5-7e030c328c3d>

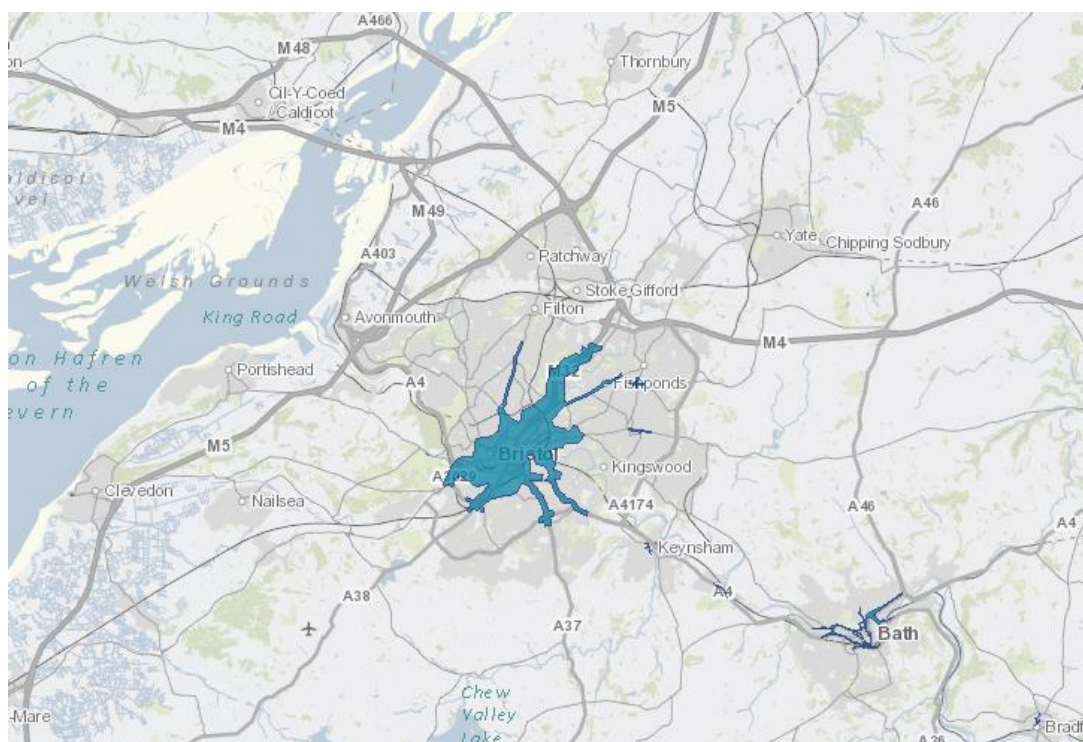


Figure 0-26: West of England Air Quality Management Areas (highlighted blue)³⁹

- 2.97 To help reduce these air quality issues, Bath and North East Somerset Council introduced a 'Clean Air Zone' whereby coaches, buses, taxis and light- and heavy-goods vehicles have been charged for entry to central Bath since March 2021⁴⁰. In addition, Bristol City Council are implementing a scheme in Summer 2022 which also includes daily charges for older private vehicles (generally diesel vehicles produced since 2015 and petrol vehicles produced since 2006) entering central Bristol⁴¹. Provision of a new rail station at St Anne's and services to further afield can support air quality benefits beyond the Clean Air Zone scheme boundaries, such as the A4 corridors, and increase the effectiveness of the charging schemes.
- 2.98 The aforementioned heavy traffic volumes and subsequent impacts reflect high levels of economic activity, the relatively limited travel choices and the high levels of car ownership and car dependency. In the West of England 22% of households have no access to a car or van, and are likely to be reliant on public transport to access employment, education and services outside of their immediate neighbourhood. The Brislington East Ward shares similar car ownership characteristics as the wider region, although ownership levels are higher than neighbouring suburbs of a similar distance from the city centre.
- 2.99 Figure 0-27 contrasts car ownership rates within Brislington East, with 4 other wards at a similar distance from the city centre across Bristol, with access to local rail provision: Cotham, Ashley, Easton, and Bedminster. The data for households with no cars or van access for Brislington East is significantly lower than the other four wards at 21% - the closest being Bedminster, with 6% more households without ownership of any private vehicles. This provides stark indication of the reliance on car and van modes of transport throughout Brislington and St Anne's. Furthermore, whilst percentages of households with one car or van appears more similar across the wards (ranging from 41.7% in Ashley to 49% in Brislington East), the total percentage of households in Brislington East with 1 or more cars (30%) is substantially higher than other wards (ranging from 15.9% to 26.6%).

³⁹ <https://uk-air.defra.gov.uk/aqma/maps/>

⁴⁰ <https://beta.bathnes.gov.uk/aim-baths-clean-air-zone>

⁴¹ <https://www.bristol.gov.uk/streets-travel/bristol-caz>

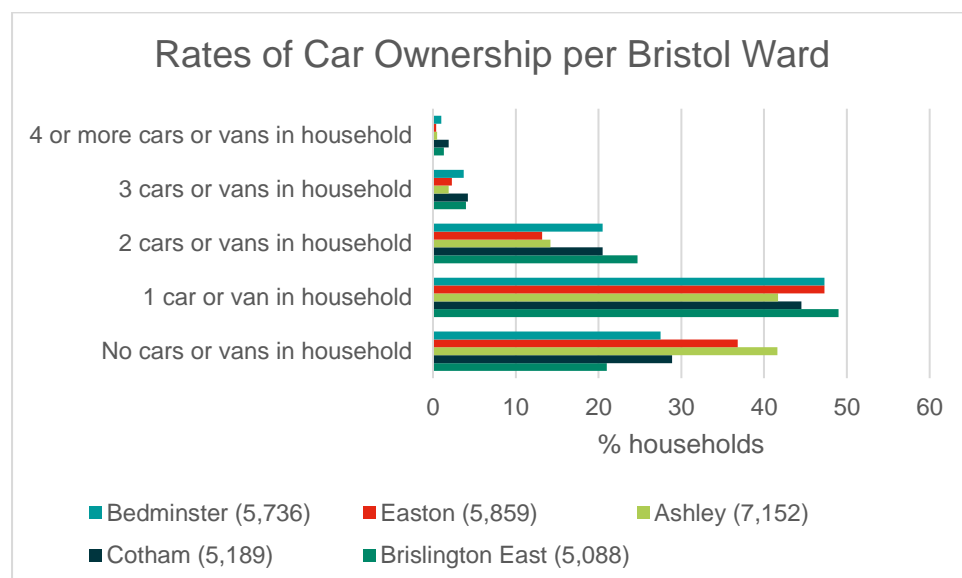


Figure 0-27: Bristol Suburb Car Ownership Comparison, NOMIS 2011

2.100 Replacing existing car-commuter journeys with rail travel provision is highly dependent upon the geographical extent of the existing rail network – provision of a new station at St Anne's Park can only be as effective in improving connectivity as the existing spread of stations permits. Figure 0-28 presents 2011 census data displaying demand flows for commuter trips made by car, from St Anne's to other key destination nodes across Bristol and the surrounding area. The locations of existing rail stations are also displayed (as black squares).

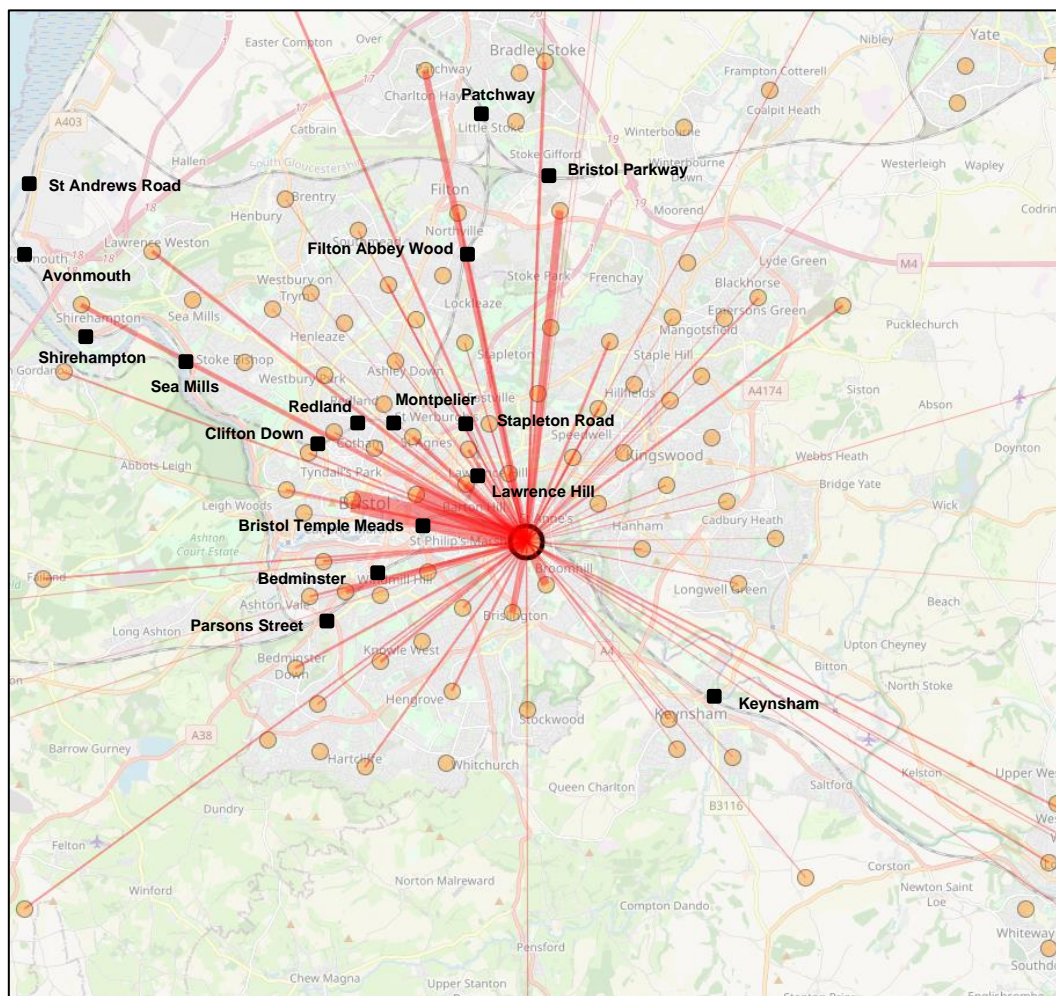


Figure 0-28: Key Destinations for Commuter Journeys made by car from St Anne's, with proportional demand flows (Census, 2011). The existing rail network has been overlain (black squares)⁴²

2.101 Whilst the most popular individual routes frequented are those from St Anne's into the centre of Bristol (City Centre, Old Market, Queens Square areas), the remainder of commuter trips made by car are highly dispersed, with journeys made to destinations in all directions across the city and beyond. Although a station at St Anne's Park would allow mode shift from car to rail for some existing trips to destinations located near to the current rail network, the majority of destination nodes displayed would not be adequately accessible by rail (requiring significant further distances to be travelled by other modes in order to connect to their nearest station). This nature of rail network in relation to desired destinations may limit the impacts of increased rail connectivity on lowering existing car commuter trips, in the absence of other first and last mile interventions across the region.

2.102 The high existing mode share towards private vehicles represents a stark contrast to areas similarly close to the river and city centre. Figure 0-29 outlines the proportions of St Anne's residents who drive to work relative to the local area (2011 Census data, NOMIS). The majority of the St Anne's suburb displays an above average percentage of residents commuting by car or van (over 37.3%), in contrast to the other areas of the city north of the river with greater public transport accessibility, which all display lower than average car use. Whilst the distance to the city centre and Temple Meads is relatively similar in St Anne's, this substantial difference in car use points to a lack of alternatives; with no easily accessible train station and a limited bus provision, many residents may only perceive a choice between driving and active travel. Subsequently, there must be adequate public transport alternatives to provide accessibility for all residents in addition to supporting the reduction of active travel barriers.

⁴² Oliver O'Brien & James Cheshire (2016) Interactive mapping for large, open demographic data sets using familiar geographical features, *Journal of Maps*, 12:4, 676-683, DOI: 10.1080/17445647.2015.1060183

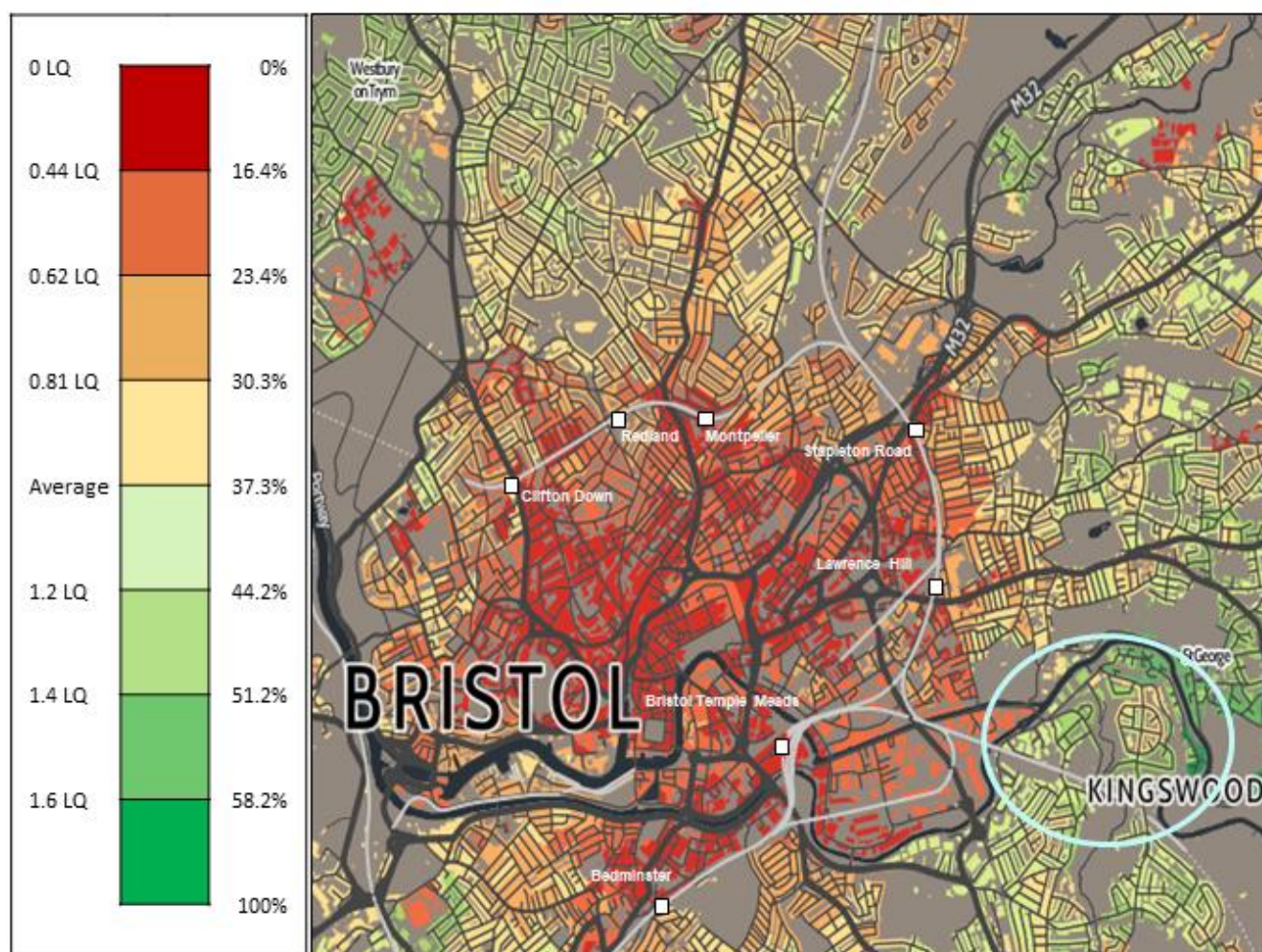


Figure 0-29: Proportion of residents driving to work by ward (St Anne's area and existing rail network highlighted). Map graded by percentage of total ward population.

2.3.3 Problem Identification Summary and Impact of Not Changing

St Anne's Local Problems

2.103 The current over-reliance on car-based travel within Brislington and St Anne's in particular is clear and, alongside issues of inaccessible rail and infrequent bus provision, indicates a strong need for improved public transport if wider city and region-wide issues are to be dealt with.

2.104 At a local level, there exists a clear lack of active travel and public transport alternatives for shorter and medium distance trips to/from the area, respectively. As a result, residents may feel no choice but to own and use a car regularly, despite their proximity to the city centre and local services.

Local Contribution to Wider City and Regional Problems

2.105 The West of England region is suffering from an excess of travel demand over available capacity across the different modal networks, which will only be exacerbated with development. The local highway network is already systemically congested in key areas near to St Anne's, including the A4 corridor and city centre. Without transport interventions, these constraints to accessing employment opportunities could ultimately restrict economic growth.

2.106 Recognising this, the project objectives will also help to address a number of problems in the West of England area, including:

- **Employment and Residential Growth Requirements:** Over 105,000 new homes and 57,500 jobs have been identified as required in the WECA region between 2020 and 2040.

These new homes and employment sites are required to support the region's economic growth ambitions but will place further pressure on transport networks and exacerbate the below problems.

- **Resilience:** Poor highway transport network resilience, with high volumes of traffic using a constrained local road network with few alternative route options. This consequently causes substantial loss of productivity and wider disruption to transport network users (the public).
- **Air quality:** Poor air quality in areas of Bristol and Bath, particularly the city centres. Approximately 300 deaths a year in Bristol were attributable to air pollution, pre-Covid.
- **Lack of alternatives to private car:** Lack of real alternatives to the car for some residents and businesses (for example, cross-Bristol trips).
- **Car dependency:** High levels of car dependency across the West of England exacerbated by aforementioned limited travel choices in areas such as St Anne's, which will continue into the medium to long term if sustainable travel choices are not broadened.

2.5 Interdependencies

2.107 The reopening of a rail station at St Anne's would help to improve local rail connectivity and accessibility to the wider network. However, recognition of the progression of other schemes and developments in the area must be made, in order to ensure a good level of integration and compatibility. Such recognition is also crucial in order to avoid any abortive costs imparted by one project onto another.

2.108 As well as a new station at St Anne's, proposals have previously been developed for the reinstatement of a station at Saltford, between Keynsham and Oldfield Park. These proposals were submitted to the DfT under RYR Ideas Fund Round 3 to support further scheme development but were unsuccessful⁴³. Due to its proximity to St Anne's, any subsequent network timetable assessment for the scheme should take account of the potential for a Saltford station, in order to ensure a co-ordinated approach for rail service development along the Bristol to Bath corridor.

2.109 On a wider level, the construction of a new station within St Anne's will impact upon the range of parallel schemes being taken forward or proposed as part of WECA's MetroWest scheme (as outlined within **Error! Reference source not found.** of this document). Some measures proposed will directly impact upon the rail network running through St Anne's. This includes the Phase 1a planned introduction of additional services from Temple Meads to Bath and Westbury.

2.110 The majority of the proposals within both Phases 1 and 2 of the MetroWest programme comprise measures to alter the rail network on other rail corridors into Temple Meads station however (including both the reopening of the Portishead and Henbury lines, with associated new stations along each). Whilst not directly affecting the Bristol to Bath line, the impacts of these proposals will alter the use of the network, both in service frequencies and timings as well as passenger journeys. The reopened lines would open up improved access to different areas across the West of England region, and may serve to mutually aid uptake in rail travel once implemented in parallel.

The MetroWest scheme has been split into two key phases of development, with the range of measures proposed for both summarised within

⁴³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1028941/restoring-your-railway-all-bids.csv/preview

2.111 Table 0-8. The potential impacts and benefits of the MetroWest proposals on a new station at St Anne's Park have been considered, aiding an understanding of the reopened station's place within the proposed future network.

Table 0-8: Overview of the proposed phases included within WECA's MetroWest scheme, and their likely impact on a station in St Anne's

MetroWest Phase	Timeline	Proposed Measures	Impact on St Anne's
Phase 1: Portishead Rail Line & other enhancements	<ul style="list-style-type: none"> Portway new station under construction Severn Beach hourly service from Dec 21 DCO Examination for re-opening Portishead ran from Oct. 2020 to April 2021. Government deadline for decision on this application has been re-set to April 2022. Network Rail leading preparations to appoint contractors. Final Business Case for Portishead/Westbury in preparation 	<p>Proposing to reopen Portishead rail line to passenger train services.</p> <ul style="list-style-type: none"> New rail station at Portishead and reopening the former station at Pill, with an hourly service between Portishead and Temple Meads. Additional 14km (9 miles) of rail network. Additional 50,000 people connected to the network. <p>Enhanced existing local stopping services.</p> <ul style="list-style-type: none"> New rail station at Portway, serving the Park & Ride, alongside half-hourly services from Avonmouth to Temple Meads. Additional services to provide half-hourly local services between Temple Meads and Westbury. 	<ul style="list-style-type: none"> Increased frequency of services between Bristol Temple Meads and Bath. New stations at Portishead, Pill and Portway will improve the coverage of the rail network across Bristol – with more destinations opened up to journeys by rail from St Anne's (especially for commuter trips).
Phase 2: Henbury Rail Line	<ul style="list-style-type: none"> Outline Business Case published in early 2019 FBC and further design work in progress 	<p>Reopening of the Henbury line</p> <ul style="list-style-type: none"> New stations at Henbury, North Filton, and Ashley Down. An hourly spur passenger service from Temple Meads to Filton Abbey Wood, and on to North Filton and Henbury. <p>Improvements to the Yate & Gloucester line:</p> <ul style="list-style-type: none"> Half-hourly services between Temple Meads and Gloucester (via Yate). Potential new station at Charfield. 	<ul style="list-style-type: none"> Phase 2 improvements all centre on parts of the network to the north of Temple Meads. Whilst journeys will most likely require an interchange at Temple Meads, new stations at Henbury, north Filton and Ashley Down will all increase rail network coverage, enabling a greater number of potential journeys to be made from St Anne's.
New Stations Package	Ongoing initial feasibility studies at this stage.	<p>A separate new stations package looking at the potential for future new stations in other locations.</p> <ul style="list-style-type: none"> Proposals for a new station at Saltford on the Bristol to Bath line. Study commissioned by BCC to assess benefits of a new station at Ashton Gate. 	<ul style="list-style-type: none"> The creation of a new station at Saltford (between Keynsham and Oldfield Park on the Bristol to Bath line) could impact on demand levels at St Anne's Park. Introducing another new station onto an already busy section of the network would require timetabling and service frequency considerations.

2.112 Consideration should also be given to proposed schemes for alternative public transport in the vicinity of St Anne's. Within JLTP4, transformational infrastructure in the form of Mass Transit is identified for five transport corridors across the West of England. The second of these ('T2') is centred around the Bristol City Centre to Bath corridor, primarily along the A4/Bath Road. Proposals encompass a mass transit route providing high frequency, high capacity and fast public transport services between Bristol and Bath. One of the potential options being assessed

along the A4 route from Hicks Gate to Bristol includes a traffic diversion onto the Callington Road Link to enable reallocation of road space from car to bus priority. In the short-term, a Metrobus extension would provide mass transit along the corridor, with the long-term ambition to provide light rail. The provision of mass transit between Bath and Bristol would help to alleviate existing road traffic congestion and improve bus journey times along many of the routes parallel to the Bristol to Bath rail line.

- 2.113 The anticipated station location for St Anne's Park will be within the boundary of the railway, and likely to be considered as 'Permitted Development'. Whilst relevant planning permissions will be required for various aspects of the scheme works, this reduces potential uncertainties with gaining approval for development. An access route to the former St Anne's Park station site remains within operational land, again reducing some of the development challenges faced at the planning permission stage. Despite this, the access arrangements identified should be clearly defined, and must align with the requirements and likely usage levels expected from the station.

2.6 Strategic Objectives

2.114 The ultimate goal for the St Anne's station scheme would be to provide an efficient, reliable and sustainable form of transport to the local community, to encourage modal shift and higher connectivity and accessibility to public transport. In order to direct efforts made towards this goal, specific strategic objectives for the scheme have been devised, and are outlined within Table 0-9. These have been derived from the wider objectives set out within WECA's Joint Local Transport Plan 4 (JLTP4), based upon the transport issues identified and the ambitions of scheme partners. These objectives represent initial outlines and would be developed at OBC stage if the scheme is progressed.

Table 0-9: Overview of Scheme Objectives

Strategic Objective (JLTP4)	Scheme Objective	Metric
Take action against climate change and address poor air quality	Work towards reducing carbon emissions and improving air quality across Bristol, contributing towards Net Zero Carbon.	<ul style="list-style-type: none"> Carbon intensity (CO₂/trip) attributed to existing and new trips. NO_x levels attributed to existing and new trips.
Support sustainable and inclusive economic growth	Provide an economic benefit for the local community and local business through improved access to the wider rail network, including for those without access to a car. Also lowering congestion across the road network.	<ul style="list-style-type: none"> Number of people in deprived communities (IMD definition) served. Number of people without access to a car served by rail network. Changes in traffic flows into/out of St Anne's
Enable equality and improve accessibility	Improve connectivity for communities in St Anne's/Brislington for employment, education, healthcare and leisure trips, and increase service access.	<ul style="list-style-type: none"> Changes in journey times from communities to key employment, education, healthcare and leisure destinations.
Contribute to better health, wellbeing, safety and security	Promote sustainable modes of transport incorporating rail with active travel modes for first and last mile trips	<ul style="list-style-type: none"> Proportions of trips taken by car vs sustainable modes for main trip and first/last mile.
Create better places	Creating a modern station facility for locals to use and enjoy, forming a central hub for the St Anne's suburb.	<ul style="list-style-type: none"> Quality of Life survey Noise pollution

Source: Strategic Objectives taken from WECA's JLTP4

2.7 Strategic Assessment of Options

2.7.1 Scope of Identified Options

2.115 At this stage the focus is on the strategic dimension for a railway station per se, rather than more detailed design options such as the precise location. Options, for evaluation in the Economic Dimension are therefore limited to:

- 1) **'Build Station'**: Station design (and location) - design options are to be considered such as passing loops, enabling trains to come off the main line and through platforms, both of which can minimise the impact of stopping services at St Anne's Park on the main line.
- 2) **'Enhance Bus'**: Consideration of connections to other public/active transport e.g. bus links, for multi-modal journeys.

2.7.2 Strategic Fit

When considering the purpose of reopening a St Anne's station, it is important to consider the strategic place of the scheme within the wider rail landscape across the West of England over the next few years. Table 0-10 outlines how the scheme aligns with the specific objectives for each of the strategic policies outlined within Section Figure 0-3: Timeline of emerging interest in a rail station in St Anne's

2.116 2.2 Strategic Alignment with Policy. Contributing towards a range of targets including decarbonisation, reducing economic inequalities, and improving the efficiency of the rail network itself, the scheme is expected to meet a wide range of the policy objectives outlined.

Table 0-10: St Anne's Park Scheme Alignment to Policy

Policy	Policy Objectives	Alignment to Scheme
<i>Connecting People: A Strategic Vision for Rail (DfT)</i>	A more reliable railway	√
	An expanded network	√
	A better deal for passengers	√
	A modern workforce	x
	A productive and innovative sector	√
<i>Decarbonising Transport: Setting the Challenge (DfT)</i>	Accelerating modal shift to public and active transport	√
	Decarbonisation of road vehicles	x
<i>Decarbonising Transport: A Better, Greener Britain (DfT)</i>	Decarbonising how we get our goods	√
	Place-based solutions	√
	UK as a hub for green transport technology and innovation	√
	Reducing carbon in a global economy	x
<i>Traction Decarbonisation Network Strategy (Network Rail)</i>	Emissions reduction	√
	Surface transport decarbonisation	√
	Passenger and freight end user	√
	Direct rail benefits	x
	Environmental benefits	√
<i>Joint Local Transport Plan 4 (WECA)</i>	Wider economy benefits	√
	Take action against climate change and address poor air quality	√
	Support sustainable and inclusive economic growth	√
	Enable equality and improve accessibility	√
	Contribute to better health, wellbeing, safety and security	√
<i>Climate Emergency Action Plan (WECA)</i>	Create better places	√
	Low carbon transport system	√
	Low carbon business	√
	Renewable energy	x
	Low carbon buildings and places	x
<i>Bristol Transport Strategy</i>	The green environment	x
	Provide transport improvements to accommodate increased demand from growth in housing, jobs & regeneration.	√
	Enable equality with an inclusive transport system.	√
	Create healthy places, promoting active transport, improving air quality, and implementing a safe systems approach to road safety.	√
	Create better places making better use of our streets and enable point to point journeys to be made efficiently.	√
	Enable reliable journeys, increasing network efficiency and resilience.	√
	Support sustainable growth by enabling efficient movement of people and goods, reducing carbon emissions and embracing new technologies.	√

2.8 Strategic Benefits

2.117 Plans to reinstate a rail station at St Anne's would help work towards encouraging modal shift from private vehicle-based travel towards sustainable modes across St Anne's and Brislington.

For those without access to a car, improved rail provision can play a crucial part in improving accessibility to other parts of Bristol and the UK, expanding connectivity to employment, education and healthcare.

- 2.118 Improving public transport, and specifically the provision of expanded rail transport, would be expected to bring a range of benefits to the local area and communities. Many of these benefits will contribute towards the achievement of range of local, regional, and national policy targets.

2.8.1 Reduction of Carbon Emissions

- 2.119 The construction of a new St Anne's station would provide residents with an alternative, sustainable and efficient method of transportation for a range of short and long-distance trips across Bristol and beyond. The scheme supports the extension of rail access provided by WECA's MetroWest project and would help to reduce road congestion and dependency on private vehicle travel, reducing overall carbon emissions. As explored earlier, there is strong potential for encouraging over 900 existing weekday commuter trips originating around St Anne's towards utilising rail travel on a regular basis.
- 2.120 With over 40% of commuter trips from Brislington East representing 2-5km distances, improved public transport provision represents a more effective alternative to driving than walking for a large number of existing trips. Whilst St Anne's is located outside of Bristol's Air Quality Management Area (AQMA; Figure 0-26), it is probable that a significant proportion of existing trips made into or out of St Anne's by car, pass through areas of this AQMA, thus contributing to wider air quality issues. The A4/Bath Road corridor is included within the AQMA, represents a key major road link connecting St Anne's with areas of Bristol to the north and Keynsham and Bath to the south-east. If journeys were to be shifted from car to rail-based from St Anne's into the city centre or towards Bath, there would be a reduction in car-based trips from St Anne's using the A4, with the rail network fulfilling the requirements for many similar journeys and reducing air pollution within these nearby management zones.
- 2.121 In turn, reflecting WECA's Climate Emergency Plan target to achieve net zero carbon by 2030, increased rail provision in St Anne's would help to encourage modal shift and support the region-wide transport decarbonisation ambitions. Any potential future works to electrify the Bristol to Bath line or use of alternative fuels in support of the Network Rail Traction Decarbonisation Strategy would also accelerate the changes needed to achieve the decarbonisation target, with new stations and improved service frequencies acting to encourage parallel changes in travel behaviours.

2.8.2 Supporting Economic Growth and Life Quality Improvements

- 2.122 Improving accessibility to rail travel, particularly in areas that are deprived or where existing accessibility is challenging, can play a part in boosting local economic growth and reducing deprivation. As explored in Section 2.3.1, St Anne's represents a fairly affluent suburb, although it contains pockets of reasonably high deprivation. The principal areas of such high deprivation appear to be focused within the centre of the suburb – around the likely location for the new station.
- 2.123 Located a similar distance from the centre of Bristol, the ward of Bedminster has been principally served by Parson Street station since its opening in 1927, located along the main line connecting Bristol Temple Meads station to the rest of the South West. Table 0-11 displays a comparison between employment statistics for both Brislington East (within which a station at St Anne's would be located) and Bedminster (containing Parson Street Station), to provide an indication of the economic impact provided by a rail station to a local community. It should be noted that the existence or absence of a local rail station represents just one of a large number of variables determining economic performance and deprivation levels of an area, and therefore any conclusions drawn reflect this awareness.

Table 0-11: A comparison of employment figures between Brislington East and Bedminster, NOMIS (Census 2011)⁴⁴

	Brislington East (No.)	Brislington East (%)	Bedminster (No.)	Bedminster (%)	Bristol, City Of (%)	England And Wales (%)
Economically Active	6,424	83.2	7,467	84.9	75.7	76.8
In Employment	6,032	78.1	7,075	80.4	69.9	71
Employees	5,342	69.2	6,277	71.4	60.9	60.6
Self Employed	690	8.9	798	9.1	9	10.4
Unemployed	392	6.1	392	5.2	7.7	7.6

- 2.124 Whilst the Bedminster Ward is shown to have a higher population than the Brislington East Ward (by just over 1,000), it also displays a higher percentage of this population who are in employment, at around 2.3% higher. In turn, both wards hold the same number of unemployed residents – representing a lower proportion of Bedminster's total populace (by around 1%) and providing an indication of lower overall deprivation. Whilst we cannot trace the cause of all of these economic benefits back to the proximity of Parson Street station alone, it appears likely that the station has contributed significantly to allowing people of working age to live in the area, providing connections to the rest of the rail network to improve access to employment.
- 2.125 In a similar way, the scheme provides significant potential for inclusive growth across the area, with more deprived areas of Brislington likely to benefit from improved public transport, allowing for increased accessibility onto the rail network as well as improved connectivity for those without access to a car. Linking St Anne's and Brislington residents to employment opportunities across Bristol and the West of England will contribute towards economic growth across the area, with core benefits focused into St Anne's.
- 2.126 Alongside adding to economic growth across the area, the scheme also represents an opportunity to improve quality of life for residents of St Anne's, helping to reduce deprivation and promote social inclusion for a range of different residents. The 2020/21 Quality of Life (QoL) survey provides an annual snapshot of quality of life, wellbeing, and travel habits in Bristol, enabling it to be used as an up-to-date indication of existing travel behavior. The survey is presented at ward level, with Brislington East scoring poorly on a number of transport metrics. Figure 2.30 presents the proportion of residents within each Bristol ward for whom transport issues stop them from getting involved in their community.

⁴⁴ <https://www.nomisweb.co.uk/reports/lmp/ward2011/1140851218/report.aspx?town=brislington>

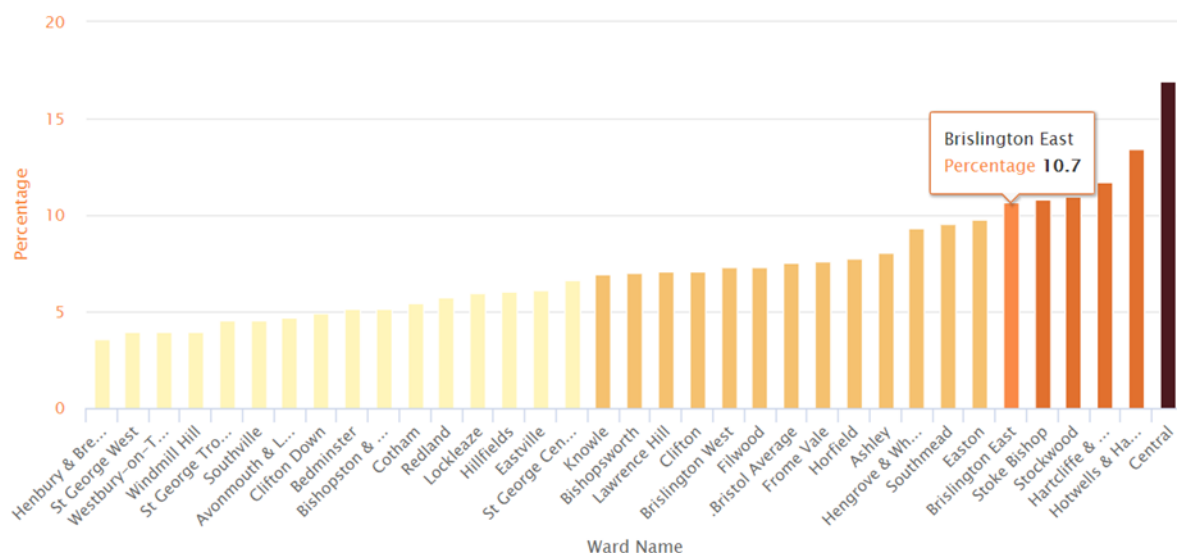


Figure 0-30: % for whom transport issues stop them from getting involved in their community⁴⁵

2.127 As displayed, Brislington East performs poorly against other wards, with 10.7% of respondents agreeing that transport was a barrier to their community involvement (the 6th worst percentage by ward across the city, out of 35 total wards). Transport represents one of the most critical barriers to social inclusion, especially for those without access to private transport means. Whilst access to employment is important for the economic output of an area, access to a transport for a range of alternative purposes is equally important for quality of life and to promote social cohesion within a community. The opening of a station within St Anne's would provide improved public transport links to a range of facilities and amenities across the city including educational establishments, health facilities, leisure centres and retail areas. In combination with economic growth, such improved accessibility would increase the attractiveness and community feel of the area, encouraging enhanced prosperity and future investment.

2.8.3 Resilience to Flood Risk

2.128 Due to its proximity to the River Avon, the St Anne's area features heavily within Bristol City Council's Flood Risk Management Strategy. As shown within Figure 0-31, areas at risk of tidal flooding over roughly the next hundred years spread over the north-western edge of St Anne's, along the southern side of the River Avon. It should be noted that this flood risk forecasting extends up to the year 2115, and therefore represents a highly long-term indication of potential risk.

⁴⁵ https://opendata.bristol.gov.uk/pages/quality_of_life_results_202021/#bristol-trend-view

- 2.129 Whilst the areas at risk do not spread south or east enough to threaten the rail line through St Anne's, these areas incorporate several key road links alongside and over the River to areas further north and west. As such, the introduction of rail service provision to St Anne's could represent much higher transport infrastructure resilience than highway-based travel along certain corridors, reducing longer term costs and connectivity issues within the centre of Bristol.

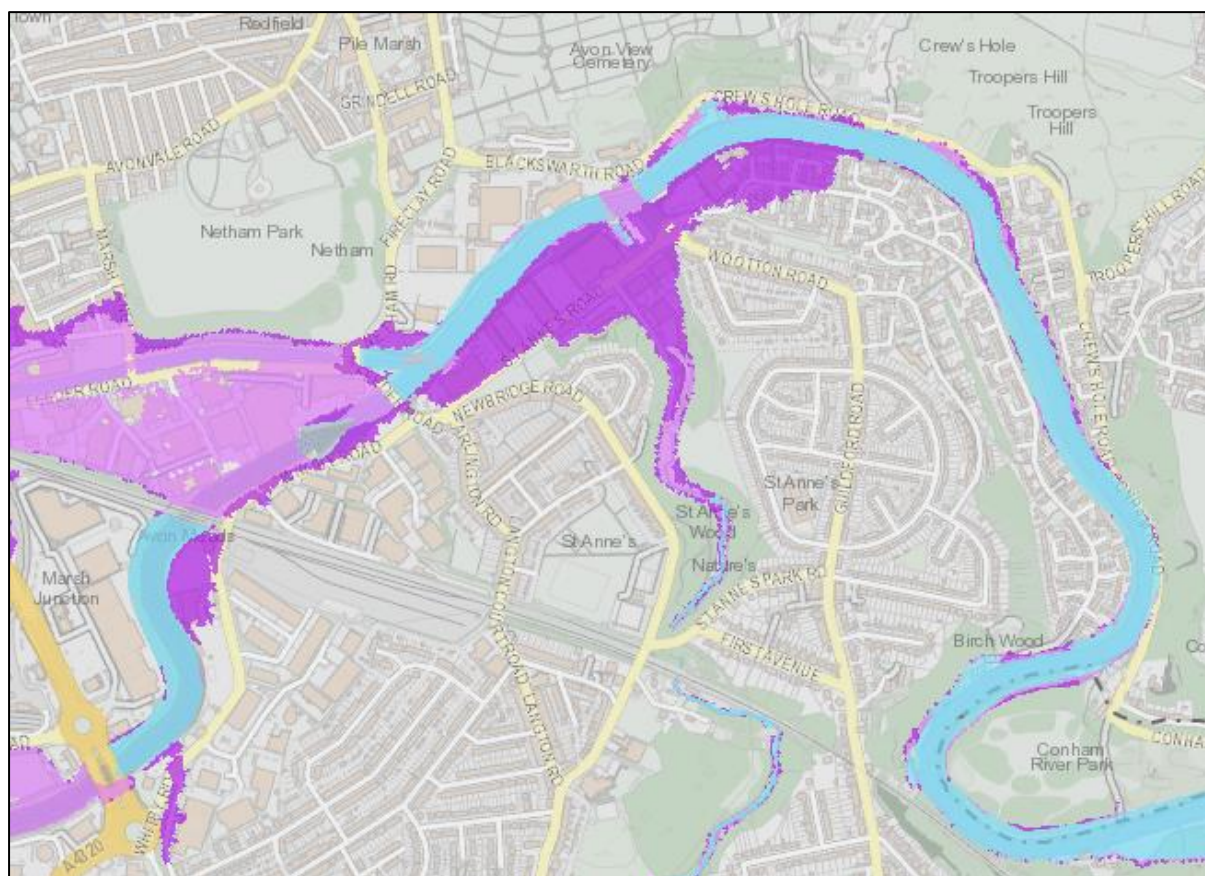


Figure 0-31: Flood Risk Map of the St Anne's suburb, forecasting the period up to 2115⁴⁶

2.9 Risks and Constraints

Risks

- 2.130 At this stage, high-level assessments of risks have been undertaken. The results of these assessments can be found in the relevant sections of the Financial Dimension (4.4 Cost Risks and Uncertainties) and Management Dimension (6.6 Management of Risk).

Constraints

- 2.131 The existing Bristol to Bath line running through St Anne's has one track running in each direction, accommodating a mix of express passenger, local passenger and freight services. MetroWest Phase 1A, assumed to have been delivered in advance of a reopened station at St Anne's Park, includes additional services to provide an overall half-hourly stopping frequency (2 trains per hour) along this section of the rail network in both directions.
- 2.132 One of the foremost potential constraints for any new station built along the Great Western Main Line is that of ensuring sufficient capacity for any new services or stops within the timetabling of the line. As such, timetable modelling will ultimately inform station design options to ensure that there is minimal impact to existing services.
- 2.133 Network Rail have undertaken capacity analysis along the Bristol to Bath line, to inform the St Anne's scheme. The study focused around assessing the potential to create stops at St Anne's Park (as well as at a proposed station in Saltford), to be built into the existing timings of Class 2

⁴⁶ <https://maps.bristol.gov.uk/bfrm/>

passenger services. A 0.5 trains per hour (tph) frequency of freight train uplift was also examined within the analysis. The main findings are listed below:

- The analysis demonstrates that it would be possible to incorporate hourly calls at St Anne's Park into Class 2 passenger services (using GWR's development December 2021 timetable). Furthermore, in the 'Up' direction, off-peak Bristol Temple Meads to Westbury services can accommodate stops at both St Anne's Park and Saltford stations.
- However, some issues arise for equivalent peak-time services, with these already running at minimum margins with other services (i.e. the minimum safe time interval between trains has already been reached). Incorporating an hourly stop at St Anne's Park during peak hours would have an impact on the robustness of the timetable, requiring existing services to have their timings flexed, alongside the introduction of more minimum margins into the timetable. This combination of impacts could hinder the ability of the timetable to recover in the event of perturbation (such as delays or incidents on the line) and would require further refinement to ensure best possible network resilience.
- Similarly, in the 'Down' direction, existing hourly Westbury to Bristol Temple Meads services can accommodate stops at both St Anne's Park and Saltford, albeit with their timings flexed as well as those of four other trains.

2.134 More recent assessment on the potential for half-hourly stopping patterns at St Anne's Park has found that this more frequent stopping pattern could be deliverable, albeit facing many of the same capacity constraints found for hourly stopping frequencies:

- As with hourly stopping services, it is likely that capacity constraints would prevent some Bristol Temple Meads to Westbury services from incorporating half-hourly stops at St Anne's Park into their timetables, meaning that calls would have to be inserted into other stopping services. On this basis, accommodating half-hourly calls into the existing network would require additional infrastructure intervention e.g. construction of passing loops.
- Flexing the timings of existing trains could provide space for stops at St Anne's Park, but again increases the number of services operating under minimum margins, putting the timetable at risk from perturbation.
- There is potential for St Anne's Park calls to be factored into alternative, longer distance services (e.g. the South Wales – Bristol – South Coast route) without further interventions, although this would increase journey times for these longer distance services.

2.135 Whilst the location of the reopened station at St Anne's has been assumed to be roughly on the same site at its predecessor for the purposes of this report, its final location may be determined by the spatial constraints of its surroundings. The original St Anne's Park station was located in a cutting east of the St Anne's Park tunnel, to the east of Newbridge Road bridge today. Whilst this site has spatial capacity for a reopened station, it is constrained by housing to the north and a forest school/kindergarten site to the south, preventing construction of any additional required infrastructure.

2.136 With these spatial constraints in mind, an alternative location a few hundred yards up the line near to Langton Court Road bridge may present an alternative site for consideration, with an area of current good yard use offering space for a new passing loop in addition to the station. However, it should also be noted that freight growth aspirations may also constrain the use of this site for any passenger station.

2.137 Within the Network Rail capacity analysis report, the original station location was assumed. It was determined that a minor change in location of up to c.500m in either direction, would be unlikely to make much difference to the effectiveness of the station. Any relocation of more than c.500m however, could potentially start to affect the timetabling outputs emerging from the study, indicating the importance of location over the station's successful implementation.

2.138 However, any alterations to station location will have knock on effects for catchment areas, and associated journey times to and from the station. Shifting the station location towards the Bristol East depot site to the west might provide more space for construction but would simultaneously situate the St Anne's Park station closer to the existing station at Temple Meads, thereby

reducing the area impacted by improved accessibility to the rail network and limiting the proportion of residents who will experience benefits.

2.10 Stakeholder Engagement

2.139 The re-opening of St Anne's station has been subject of a long-standing campaign by local groups and has involved a range of stakeholders to-date. The local Neighbourhood Partnership funded research in 2016 by the University of West of England to explore the feasibility of reopening a station at St Anne's, which involved the local community and included a survey to explore potential use⁴⁷.

2.140 Although not a formal consultation, the 2021 FoSBR received just over 100 responses. The majority of respondents stated that they would use a rail station at least once per week, suggesting that there will be strong support for a scheme from some members of the public living in the area.

2.141 A programme of stakeholder engagement would be developed in order to deliver the scheme, recognising the range of interests and roles among the stakeholders, engaging the right people at the right time with clear and concise communication. The different stakeholder groups include:

- Community – residents, community groups, lineside neighbours;
- Campaign groups;
- Transport user groups;
- Key local businesses / business groups;
- Key service providers;
- Other organisations / groups – Environment Agency, Natural England, Historic England, landowners, developers, utilities, etc.;
- Politicians / Local Government - Local MP (Kerry McCarthy MP, is a key sponsor), Bristol City Council, WECA, DfT, ORR; and
- Rail Industry – NR, GWR, Freight operators.

⁴⁷ University of the West of England (2016), 'Bring back St Anne's Park: Feasibility Study'.

3. Economic Dimension

3.1 Introduction

- 3.1 The Economic Dimension considers the impacts of opening a new station at St Anne's in terms of costs and benefits. In order to combine benefits and costs across a range of areas, impacts are converted into monetary values.
- 3.2 The initial stage of the Economic Dimension considers the likely rail patronage for a new station and from which modes trips are forecast to have shifted. This is described in sections 3.2-3.6.
- 3.3 The second stage of the Economic Dimension considers the costs and benefits associated with the new station. This includes capital costs and journey time savings of both new users switching to rail from existing modes and through trip passengers on the services stopping at St Anne's. This is described in section 3.7.
- 3.4 The Economic Dimension considers demand for a new station at St Anne's in the following scenarios:
 - 2 tph service with additional St Anne's stop time of 1 minute;
 - 1 tph service with additional St Anne's stop time of 1 minute;
 - 2 tph service with additional St Anne's stop time of 4 minutes; and
 - 1 tph service with additional St Anne's stop time of 4 minutes.
- 3.5 The different scenarios reflect a range of potential impacts on through passengers, in the absence of more detailed timetable development and modelling. It has been assumed here that the local stopping service (i.e. the service which currently calls at Keynsham and Oldfield Park) calls at St Anne's. It is assumed MetroWest Phase 1A (i.e. an additional hourly Westbury-Bristol Temple Meads stopping service) is in place prior to the opening of a new station at St Anne's.
- 3.6 The stopping times of 1 minute and 4 minutes have been chosen to reflect the full range of potential operating arrangements. Network Rail work has suggested a 4-minute stop time, which it has been assumed to represent the upper end of the range. A 1-minute delay, whilst unlikely to be easily achieved in operational terms represents a lower end of potential impact.
- 3.7 The Economic Dimension estimates the Benefit to Cost Ratio (BCR) for a new station at St Anne's in the following scenarios:
 - 2 tph service with additional St Anne's stop time of 1 minute;
 - 2 tph service with additional St Anne's stop time of 2.5 minutes; and
 - 2 tph service with additional St Anne's stop time of 4 minutes.

3.2 Demand Modelling Methodology

- 3.8 A mode choice model has been developed covering key commuter movements from St Anne's and Brislington East. The base model includes travel by car, bus and walk and represents the main cost components of each movement by each mode.
- 3.9 The model represents travel on an October weekday AM peak in 2021 (as a neutral period with limited Covid-19 impacts on AM congestion).
- 3.10 Mode choice calculations have been set up in accordance with TAG guidance outlined in TAG Unit M2.1 (Variable Demand Modelling). The model has considered only mode choice response as the focus of quantitative assessment has been commute trips into Bristol City where trip re-distribution is expected to be limited. A "hierarchical logit" formulation in which the choice between travel alternatives depends upon an exponential function of the generalised cost or disutility has been adopted. In accordance with TAG UNIT 2.1 – 4.1.2 the demand model has been applied incrementally. Illustrative model parameters from TAG Unit 2.1 Table 5.1 & table 5.2 have been adopted as locally calibrated values are not available.
- 3.11 Generalised costs have been developed for AM period for each mode to ensure consistency with travel to work census data. The following components have been included in generalised costs for each mode:

Car trips

- In-vehicle travel time
- Fuel and non-fuel vehicle operating costs (calculated using TAG databook parameters based on trip distance and average speed)
- Parking charges – converted to generalised minutes using TAG Values of time
- Egress walk time – walk time from parking location to ultimate destination

Bus trips

- Access time – walk time from home location to bus stop
- Wait time at bus stop
- Bus fare – converted to generalised minutes using TAG Values of time
- In-vehicle travel time
- Transfer penalty and additional wait time
- Egress walk time – walk time from destination bus stop to ultimate destination

Rail trips

- Access time – walk time from home location to new rail station
- Wait time at rail station
- Rail fare – converted to generalised minutes using TAG Values of time
- In-vehicle travel time
- Transfer penalty and additional wait time for users interchanging at Bristol Temple Meads
- Egress walk time – walk time from destination rail station to ultimate destination

Walk trips

- Walk time

3.12 The base model has been calibrated to reflect mode shares in the 2011 Census; whilst dated this provides the best source of data on multi-modal travel in the study area. Figure 0-1 shows the calibration of modelled bus mode shares against census mode shares for modelled movements.

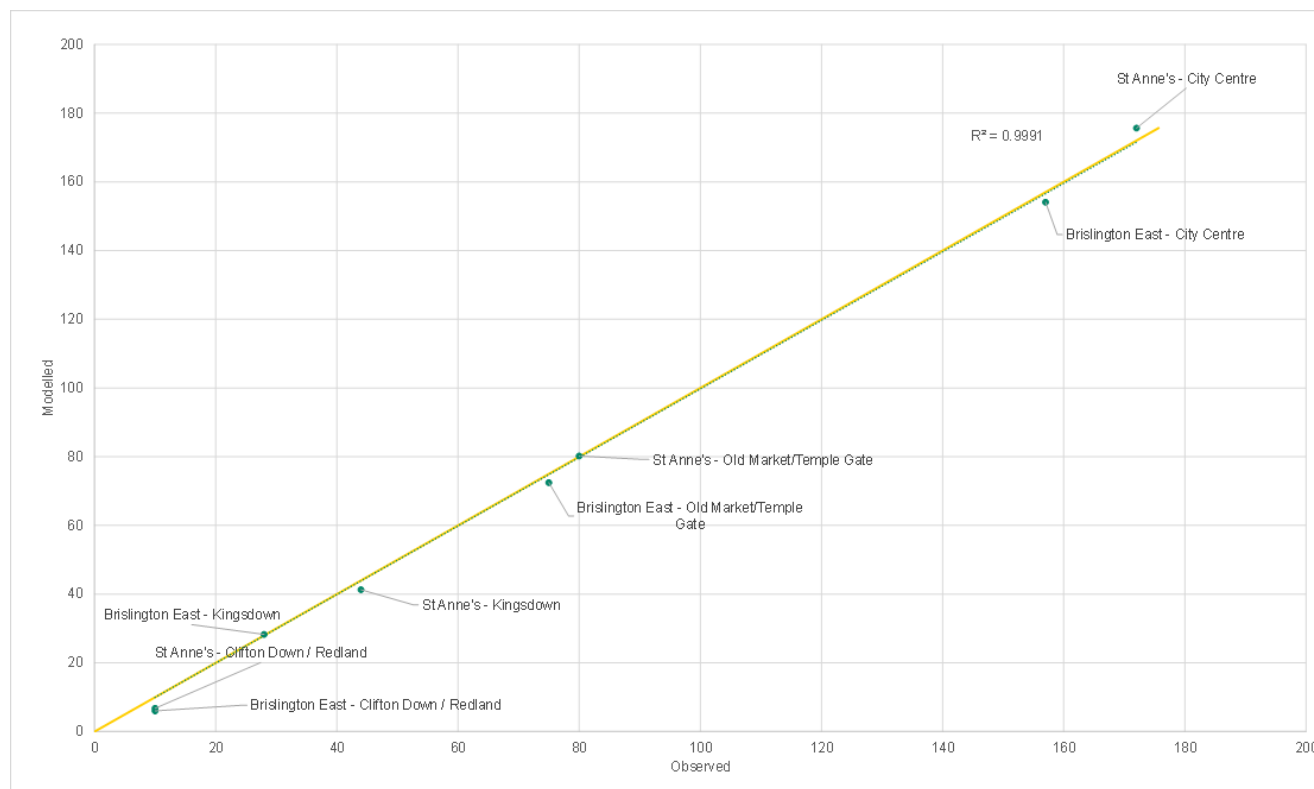


Figure 0-1: Daily Bus Commuters Modelled Vs Observed (2011 Census)

3.13 Underlying demand volumes were extracted from census journey to work data. These represent commuters in 2011. The following growth assumptions have been adopted to estimate base year (2019) demand:

- Census journey to work data covers 'usual trip to work' this measure does not account for commuters who do not travel to work every weekday. Prior experience using this dataset has shown a typical over representation of 30% when compared to average weekday volumes. A factor of (1/1.3) has been applied to convert to average weekday volumes.
- 2011 to 2019 growth in car trips has been taken from DfT Road Traffic Statistics - Annual traffic by vehicle type in City of Bristol. Car and Taxi vehicle miles increased by 5.9% between 2011 and 2019
- 2011 to 2019 growth in bus trips has been taken from Bristol City Council Bristol Bus Deal Memorandum of Understanding. Bus passengers increased by 50% between 2011 and 2019
- 2011 to 2019 growth in active mode (walking and cycling) trips has been based on population growth in Brislington East / St Anne's MSOA. Office for National Statistics data (Population change 2009 to 2019 by ward: Annual Small Area Population Estimates) indicate an annual average population growth in Brislington East / St Anne's MSOA of 0.46%. This gives a population growth of 3.7% between 2011 and 2019

3.14 The demand model estimates 2019 boarding and alighting demand at St Anne's Park station for differing rail service scenarios. To project rail patronage forecast through the 60-year appraisal period rail growth rates from EDGE at Parson St and Bedminster stations has been adopted. This is consistent with modelling work undertaken for MetroWest Phase 1.

3.15 Two forecast scenarios have been developed for 2019:

- Enhanced bus service - This scenario is intended as an indicative benchmark against which to consider the demand results of new station scenario. Economic appraisal of this scenario has not been undertaken.
- New railway station at St Anne's. Both demand forecasts and economic appraisal have been developed for this scenario.

3.16 The following forecast assumptions were set for each of these two scenarios.

Forecast assumptions – Enhanced bus service

- As a proxy for enhancements to bus priority along the A4 corridor it has been assumed that bus in-vehicle time for movements along the A4 have been reduced by 5 minutes. This is a theoretical scenario indicative of large scale peak period bus improvements to the currently congested corridor;
- This scenario is intended to provide a comparison to the new rail station scenario and is not a forecast of specific bus or mass transit proposals on the A4 corridor; and
- The scenario does not include any enhancement to service frequency or routing, nor any service quality enhancements therefore can be considered a conservative estimate of the impact of bus enhancement. It also does not include any assumptions regarding potential mass transport solutions for the A4 corridor.

Forecast assumptions – New Rail Station

- Two service frequency scenarios have been modelled, one with 2 trains per hour (tph) – 30-minute headway giving 15-minute average user wait time; and a second scenario assuming a 1 train per hour service – 60-minute headway giving 30-minute average user wait time. The second scenario reflects a more operationally robust timetable, as demonstrated by Network Rail's analysis;
- In-vehicle times for the service have assumed a 4-minute journey time from St Anne's to Bristol Temple Meads;
- Fares have been assumed to be same as for Bedminster station, but with assumption that return rail fare would not be lower than return bus fares. Bedminster Station has been selected as a source for fares as it is a similar type of station to that envisaged at St Anne's. Bedminster is the first stop south of Bristol Temple Meads, is situated in a residential area; and, acts overwhelmingly as production end of trips only (i.e. not a destination station); and
- Interchange time and wait at Temple Meads are assumed to remain same as base.

3.17 Based on these assumptions it has been assessed that the following modelled movements would have rail as a viable mode option:

- From St Anne's to Bristol city centre, Old Market/Temple Gate, Montpellier, Clifton Down/Redland, Kingsdown, UWE/Filton Abbey Wood, Stapleton Road, St Georges;
- From Brislington East to Bristol city centre, Montpellier, Clifton Down/Redland, Kingsdown, UWE/Filton Abbey Wood, Stapleton Road, St Georges;
- To St Anne's from Bristol city centre, Old Market/Temple Gate, Clifton Down/Redland; and
- To Brislington East from Old Market/Temple Gate, Clifton Down/Redland.

3.18 It has been assumed that 50% of existing bus users on these movements will remain as bus users with the new station as the greater number of bus stops will mean for many users bus is more convenient for their ultimate origin and destination.

3.19 An uplift (4.27) has been applied to commuter volumes to reflect 2-way trips and trips made by other purposes; purpose splits have been taken from TAG Databook Table 5.3.2.

3.20 A 30% uplift has been applied to daily trip volumes based on data from the Moira model database for Lawrence Hill station. Lawrence Hill has been chosen as it has a similar catchment area and position relative to Bristol Temple Meads. Moira shows that 23% of tickets to/from the station have an origin/destination outside the West of England.

- 3.21 Abstraction from existing railway stations has not been explicitly modelled (i.e. people from the St Anne's who currently use the train from another station).

3.3 Demand Forecasts (2 trains per hour)

- 3.22 Results for the base and forecast scenarios (2019 values) are shown in Figure 0-2 and Table 0-1 below, calculated in daily trips.
- 3.23 The change from the base to the bus enhancement scenario would include an anticipated increase in bus passengers of 99 (to 4,589 in total), with reductions in car (-42) and walking (-57).
- 3.24 The St Anne's station scenario would see 2,127 users, with a reduction of 1,727 in bus users from the base, 181 car user and 219 walking. When considering the impact of the St Anne's station scenario against the bus enhancement, the new station scenario mode shifts an additional 139 car trips and 162 walk/cycle trips to rail (compared to the enhanced bus scenario)

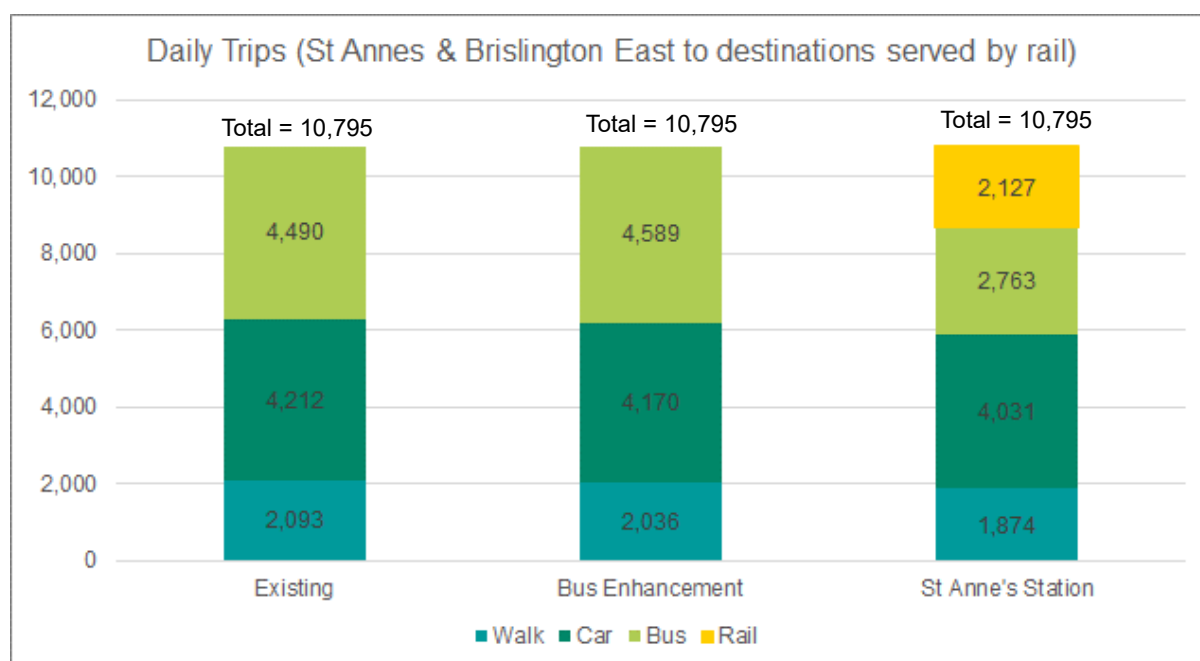


Figure 0-2: Base and Forecast Daily Trip Volumes based on two trains per hour service at St Anne's station

Table 0-1. Modelled Forecast Scenarios

Change from Base to St Anne's Station

Rail	2,127				
Bus	-1,727	-38%	reduction on base demand	81%	from bus
Car	-181	-4%	reduction on base demand	8%	from car
Walk	-219	-10%	reduction on base demand	10%	from walk

Change from Base to Enhanced Bus

Rail	0.0				
Bus	99	2%	increase on base demand		
Car	-42	-1%	reduction on base demand	42%	from car
Walk	-57	-3%	reduction on base demand	58%	from walk

Change from Bus Enhancement to St Anne's Station

Rail	2,127				
Bus	-1,826	-40%	reduction on bus enhancement scenario	86%	from bus

	Car	-139	-3%	reduction on bus enhancement scenario	7%	from car
	Walk	-162	-8%	reduction on bus enhancement scenario	8%	from walk

3.25 Based upon the above, the mode share summaries for key movements from St Anne's and East Brislington to Bristol City Centre are shown in Table 0-2 and Table 3-3.

Table 0-2. Mode share summary from St Anne's to Bristol City Centre

St Anne's to City Centre				
	Car	Public Transport		Active Travel
		Bus	Rail	
Base Observed	51%	29%		20%
Base Modelled	49%	30%		21%
With Bus Enhancement	48%	32%		20%
<i>Change from Base</i>	-0.8%	1.9%		-1.0%
With New Station	46%	15%	22%	17%
<i>Change from Base</i>	-3.6%	-15.0%	22.4%	-3.8%

Table 0-3. Mode share summary from Brislington East to Bristol City Centre

Brislington East to City Centre				
	Car	Public Transport		Active Travel
		Bus	Rail	
Base Observed	44%	45%		11%
Base Modelled	44%	44%		12%
With Bus Enhancement	43%	46%		11%
<i>Change from Base</i>	-1.3%	2.1%		-0.8%
With New Station	42%	22%	26%	10%
<i>Change from Base</i>	-2.4%	-21.9%	25.7%	-1.3%

- 3.26 In summary, with a 2 train per hour service at St Anne's, daily rail patronage is forecast as 2,127, with 81% of these new rail users switching from bus, 10% switching from walking and 8% switching from car. The new rail station with a 2tph service would reduce car trips by 181 people per day (120 vehicle trips in each average weekday peaks).

3.4 Demand Forecasts (1 train per hour)

3.27 The model has been run assuming the new St Anne's station only receives a 1 train per hour service. Figure 0-3 summarises the patronage forecasts in 2019, whilst mode share forecasts are provided in Table 0-4.

3.28 In summary, with a 1 tph service at St Anne's, daily rail patronage is forecast as 85, compared to a forecast of 2,127 for a 2 tph service. This analysis indicates that a 1tph service would not be an attractive option for potential rail users.

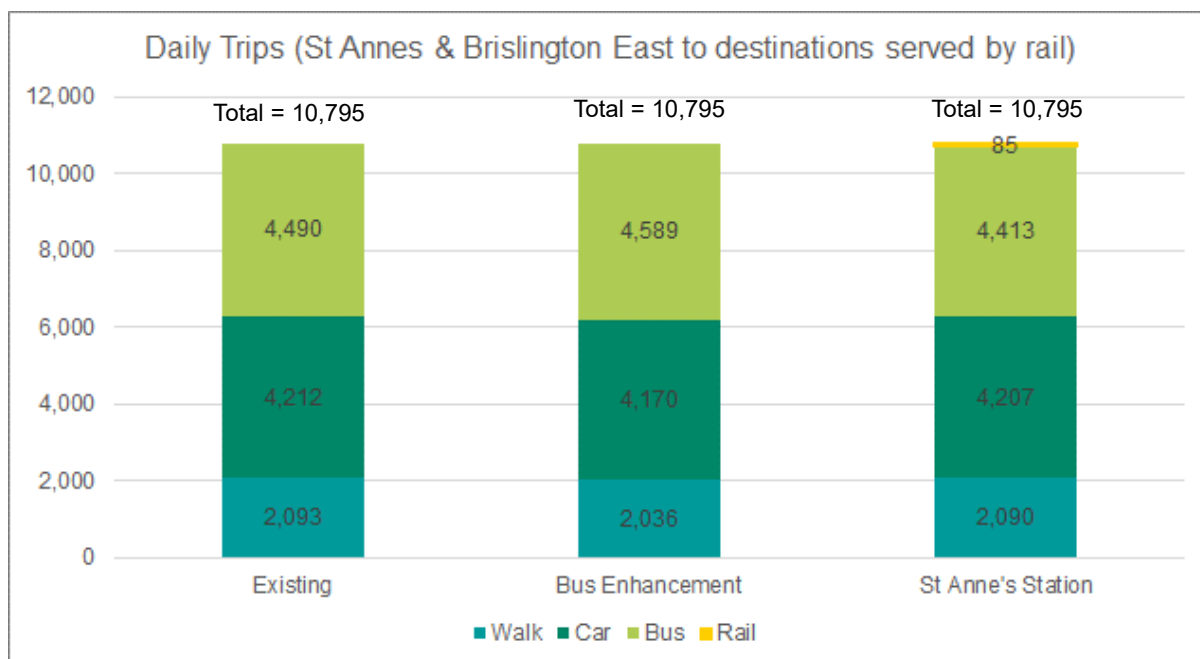


Figure 0-3: Patronage forecast - one train per hour service at St Anne's Park Station

Table 0-4. Mode share summary from St Anne's to Bristol City Centre

Change from Base to St Anne's Station

Rail	85				
Bus	-77	-38%	reduction on base demand	91%	from bus
Car	-5	-1%	reduction on base demand	6%	from car
Walk	-3	-24%	reduction on base demand	4%	from walk

Change from Base to Enhanced Bus

Rail	0		increase on base demand		
Bus	99	2%	reduction on base demand		
Car	-42	-1%	reduction on base demand	42%	from car
Walk	-57	-3%	increase on base demand	58%	from walk

Change from Bus Enhancement to St Anne's Station

Rail	85		reduction on bus enhancement scenario		
Bus	-176	-4%	reduction on bus enhancement scenario	208%	from bus
Car	37	1%	reduction on bus enhancement scenario	-44%	from car
Walk	54	3%	reduction on bus enhancement scenario	-64%	from walk

- 3.29 When rail service frequency reduces to 1 tph, several key potential movements fall out of scope of the new rail service as bus provides a quicker alternative. These include trips to/from Bristol city centre and Old Market/Temple Quay.
- 3.30 Overall, the potential daily market for rail drops from 18,512 at 2 tph to only 817 at 1 tph. This is driven by the increased wait times and reduced convenience of an hourly rail service. The failure to capture this large market is why the 1tph service has significantly low forecast patronage.

3.5 Assessment of impact on existing rail users

- 3.31 The introduction of a station at St Anne's will attract local users to rail but the additional stop will increase travel times for users already travelling through the station from origins elsewhere.
- 3.32 To assess the scale of impact on existing rail demand the Moira rail demand forecasting tool has been used. The analysis compared a base scenario (assuming a post-MetroWest Phase 1A 2 tph stopping service) and a scenario with the journey time between Bristol Temple Meads and Keynsham increased on the stopping services by 1 minute (with all subsequent stops 1 minute later). Other trains passing through St Anne's (but not stopping) were assumed to be unaffected.
- 3.33 An estimated 16,144,000 annual passenger journeys a year would be affected as a consequence of the timetable change adding in 1 extra minute of journey time into the 2 tph stopping services. Overall, Moira predicts (with a 1-minute journey time penalty) a reduction in daily passengers of 174, compared to the 2,157 new daily passengers boarding or alighting at St Anne's (Table 0-5 Impact of St Anne's station on existing rail users (1 minute stopping delay))
- 3.34 The biggest reductions would be seen between Bristol Temple Meads and Keynsham where demand reduces by 3.4% and Bristol Temple Meads to Bath Spa where demand reduces by 2%.
- 3.35 In addition, it is forecast that 6,319 passengers would actually experience a decrease in their overall travel time of 1 minute due to the St Anne's Station. These passengers are travelling for example, from Keynsham to London Paddington changing at Bath Spa. Their service arrives/departs Keynsham 1 minute later due to the stop at St Anne's but they still connect with the same London services, resulting in a reduced wait at Bath Spa hence reduced overall journey time.

Table 0-5 Impact of St Anne's station on existing rail users (1 minute stopping delay)

From	To	Change in demand		
		Annual	Daily	% change
Bristol Temple Meads	Bath Spa	-27,844	-90	-2.0%
Bristol Temple Meads	Keynsham	-7,855	-26	-3.4%
Bristol Temple Meads	Oldfield Par	-3,041	-10	-2.1%
Bristol Temple Meads	Trowbridge	-1,852	-6	-1.2%
Bradford On Avon	Bristol Temple Meads	-1,617	-5	-1.3%
Other Flows		-11,450	-37	-0.1%
Total		-53,659	-174	

- 3.36 Table 0-6 shows the impact on through trip patronage when assuming there would be a 4-minute stopping time at St Anne's. This reflects Network Rail's assumption in their preliminary operational assessment.
- 3.37 With an increased stopping time of 4 minutes, Moira predicts a reduction in daily passengers of 769, compared to the 2,157 new daily passengers boarding or alighting at St Anne's. The biggest reductions would be seen between Bristol Temple Meads and Keynsham where demand reduces by 11.8% and Bristol Temple Meads to Bath Spa where demand would reduce by 7.7%. Flows beyond Bath Spa are affected by the assumed timetable change resulting from a later/earlier departure including changes to connectional opportunities.

Table 0-6 Impact of St Anne's Park station on existing rail users (4-minute stopping delay)

From	To	Change in demand		
		Annual	Daily	% change
Bristol Temple M	Bath Spa	-110,170	-358	-7.7%
Bristol Temple M	Keynsham	-26,982	-88	-11.8%
Bristol Temple M	Oldfield Park	-13,662	-44	-9.2%
Bristol Temple M	Trowbridge	-7,128	-23	-4.7%
Bradford On Avon	Bristol Temple M	-6,200	-20	-5.1%
Bath Spa	Trowbridge	-5,936	-19	-1.7%
Bradford On Avon	Bath Spa	-4,107	-13	-1.9%
Other Flows		-62,778	-204	-0.3%
Total		-236,963	-769	

3.6 Key findings on patronage forecasts

3.38 In summary, a 1 train per hour service stopping at St Anne's Park is estimated to attract an average of 85 daily passengers boarding and alighting at St Anne's; with significantly higher forecasts of 2,127 daily passengers for a 2 train per hour service. Whilst the modelling has considered commuting trips, volume uplifts have also been applied in generating forecasts to account for:

- **Non commute trips:** these will predominantly be leisure/shopping/personal business trips with a greater share travelling in the interpeak than for commute trips; and
- **Longer distance national rail trips** that will use St Anne's to access the national rail network. These trips are likely to be predominantly business trips and 'visiting friends and family' and are likely to be abstracted from existing boarding volumes at Bristol Temple Meads and Bath Spa rather than newly generated rail trips.

3.39 The analysis considering a service frequency of 1 tph has shown that rail only remains a viable alternative for a small part (9.5%) of the market which is viable with a 2 tph service (daily market of 10,795 trips at 2 tph and only 1029 trips at 1 tph). A key movement where a 1tph service is not viable is trips to Bristol city centre; from this analysis it is clear that a new station with a 1tph service would not be viable as the frequency is insufficient to complete against journeys by other modes.

3.40 For the 2,127 daily rail passengers in a 2tph scenario the majority (81%, 1,727 daily trips) are forecast to be extracted from bus, with 10% (219 daily trips) extracted from walking trips. Only 8% of rail trips will be extracted from car, equating to 181 daily passenger trips, equivalent to 120 vehicles. The relatively low impact of the new station on car volumes are a consequence of the relatively low car mode shares for the movements from St Anne's and Brislington East that could be served by rail; this is illustrated below by the images which shows the pattern of commuting in Figure 0-4⁴⁸ (commute by all modes, bus and car from St Anne's) and the dispersed nature of car-based trips Figure 0-5 (commute by car); such trips cannot all be replaced by rail. Whilst there are destinations that could be accessed by rail amongst the largest commute destinations (Bristol city centre, Old Market / Temple Quay). these already have large bus commute volumes as illustrated by Table 0-6.



Figure 0-4: Illustration of commuting trips (by all modes, bus and car from St Anne's)

⁴⁸ Oliver O'Brien & James Cheshire (2016) Interactive mapping for large, open demographic data sets using familiar geographical features, Journal of Maps, 12:4, 676-683, DOI: 10.1080/17445647.2015.1060183



Figure 0-5: Illustration of commuting trips (by car from St Anne's)



Figure 0-6: Illustration of commuting trips (by bus from St Anne's)

- 3.41 In addition to new passengers attracted to services by the opening of a new station it is important to consider the impact on through trip patronage by the increased travel time (due to time needed to stop at the new station). The scale of patronage loss varies depending upon the length of time added to journeys from services stopping at St Anne's. With a 1-minute extension to through trip travel times the analysis suggested a reduction in daily through passengers of 174. With a 4-minute extension to through trip travel times the analysis suggested the reduction in daily through passengers increases to 769.
- 3.42 Table 0-7 summarises the combined patronage forecasts (additional new passengers and reductions in through trip patronage) for the two service frequency scenarios that have been assessed.

Table 0-7 Summary of Patronage Changes with St Anne's Park Station.

Service Frequency	Stopping time at St Anne's Park	Additional new users at St Anne's Park	Change in through trip demand	Total change in rail trips	Change in car trips
1tph	1 minute	85	-174	-89	-5
1tph	4 minutes	85	-769	-684	-5
2tph	1 minute	2,127	-174	1953	-181
2tph	4 minutes	2,127	-769	1358	-181

3.8 Economic Appraisal

- 3.43 A Cost Benefit Appraisal (CBA) has been developed that considers the following cost/benefit elements:
- Journey time savings of users switching from bus;
 - Journey time savings of users switching from car/walk;
 - Journey time increase for existing rail users on the line who are delayed by the stop at St Anne's; and
 - Rail station construction costs.
- 3.44 It is expected that there will be other marginal impacts associated with the reduction in car trips. The modelling has suggested 1-4% reduction in car trips across movements served by rail, however this equates to only 120 vehicle reduction on the A4, a small change on the ~8,500 daily flow. Therefore, impacts due to reductions in car volumes have not been quantified at this stage as they are unlikely to significantly impact the Benefit Cost Ratio (BCR) values calculated.
- 3.45 The CBA has been developed following TAG and using TAG Databook values of time and discount rates.
- 3.46 Cost and benefits have been projected for 60-year appraisal window and converted to 2010 prices and discounted to 2010 present year values. The CBA produces the following metrics:
- Present Value of Costs (PVC);
 - Present Value of Benefits (PVB);
 - Net Present Value (NPV); and
 - Benefit to Cost Ratio (BCR).
- 3.47 The following sections describe the detailed assumptions adopted.

Costs

- 3.48 A range of capital costs for the new station has been identified (£8-£15 million). This is based on similar new two-platform unstaffed stations elsewhere in the UK and assumes no passing loops or similar infrastructure. The cost benefit analysis has been undertaken using the lower bound of this range (£8,000,000 in 2010 prices) and shown negative benefit to cost ratios. It is considered at this stage that further modelling of higher costs is not required as this will not alter the value for money judgement.
- 3.49 Development of a detailed breakdown of the associated capital costs and operating and maintenance costs has not been part of the scope for this analysis; but should be considered at subsequent business case stages.
- 3.50 Annual operating costs of £50,000 have been assumed. This value has been developed by benchmarking against indicative values for similar stations from wider MetroWest analysis.
- 3.51 Optimism bias of 70% has been applied to capital costs, the SOBC stage value for buildings and property (including stations). Optimism bias of 41% has been applied to operating costs.
- 3.52 Disruption costs during construction have not been included in this stage of analysis. It is expected that these could be significant as the scheme is located on a busy section of the network. This should be considered in future stages of project development as significant disruption costs would impact value for money judgement.

User Impacts

- 3.53 Average time savings per rail user has been calculated from demand model generalised costs as 15 minutes. This is a relatively sizable time saving for a PT scheme and is driven by the significantly lower in vehicle times by rail compared to bus.

- 3.54 An additional delay of 4 minutes caused by additional stop has been included. This assumption has been taken from the Network Rail Capacity Analysis Study, 1 minute and 2.5-minute sensitivity tests have also been considered; and
- 3.55 Annually an estimated 16,144,000 passenger journeys will be affected by the change in the timetable to accommodate the additional stop. This figure has been calculated using the Moira demand forecasting tool.

Provider Impacts

- 3.56 Fare revenues have not been assessed as the focus of this initial work has been on understanding whether the scheme can show value for money (based on overall BCR) rather than consider impacts on different user / provider groups. Changes in fare revenue would be represented as an impact on users and an equal and opposite impact on service providers and therefore will not affect overall BCR or value for money judgement. The impact on operators would also be mixed with a shift of revenue from bus operator to rail operator, with additional 'new' fare revenue from rail users switching from car or walk/cycle. The detailed breakdown of fare revenue impacts should be considered in subsequent stages of the project.

CBA Findings

- 3.57 Cost benefit analysis has been undertaken for 1 train per hour (Table 0-8.) and 2 trains per hour (Table 0-9) scenarios. For each scenario results are also presented for the core scenario (4-minute stopping time) and two sensitivity tests (with 1 minute and 2.5-minute stopping times).

Table 0-8 Cost Benefit Analysis for St Anne's Park station (1 train per hour)

		1 minute stopping time	2.5-minute stopping time	4-minute stopping time
Present Value of Costs (PVC)		£9,849,822	£9,849,822	£9,849,822
Present Value of Benefits (PVB)	St Anne's users	+£1,699,883	+£1,699,883	+£1,699,883
	Through Trips	-£35,794,384	-£89,485,959	-£143,177,535
	Total	-£34,094,500	-£87,786,076	-£141,477,652
Net Present Value (NPV)		-£43,944,322	-£97,635,898	-£151,327,473
Benefit to Cost Ratio (BCR)		-3.46	-8.91	-14.36
Value for Money (VfM)		Poor	Poor	Poor

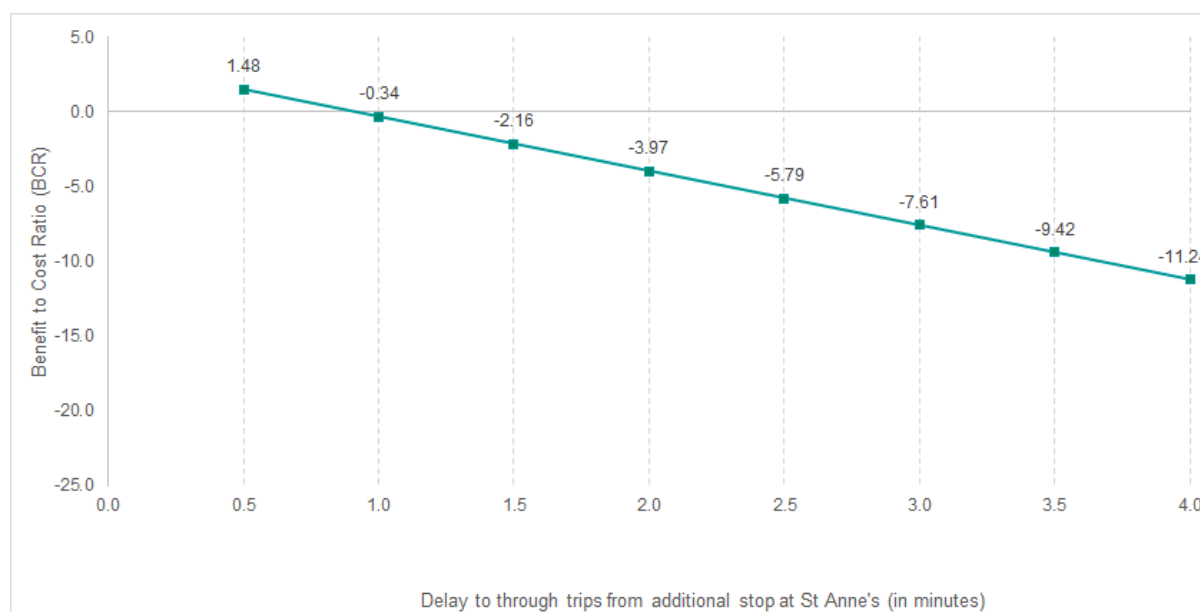
Table 0-9 Cost Benefit Analysis for St Anne's Park station (2 trains per hour)

		1 minute stopping time	2.5-minute stopping time	4-minute stopping time
Present Value of Costs (PVC)		£9,849,822	£9,849,822	£9,849,822
Present Value of Benefits (PVB)	St Anne's users	+£32,451,982	+£32,451,982	+£32,451,982
	Through Trips	-£35,794,384	-£89,485,959	-£143,177,535
	Total	-£3,342,402	-£57,033,978	-£110,725,553
Net Present Value (NPV)		-£13,192,224	-£66,883,799	-£120,575,375
Benefit to Cost Ratio (BCR)		-0.34	-5.79	-11.24
Value for Money (VfM)		Poor	Poor	Poor

- 3.58 In both 1tph and 2 tph scenarios the delay to the large number of existing rail users making through trips creates a substantial disbenefit which outweighs the time savings of new users of St Anne's who have switched from bus, walk and car.

- 3.59 With the most optimistic assumptions set (2 tph with only 1 minute delay to through trips and build costs of £8m) the BCR is still negative (-0.34). With a negative BCR, revising costs will not address the poor value for money (the BCR will always be negative whatever cost assumptions are made). The focus of economic appraisal work in the following stages of the project should therefore focus on potential to generate additional benefits. For example, by increasing the catchment of the station or through enhancing the impact on mode shift from road through complementary demand measures such as parking charge changes and re-allocation of road space.
- 3.60 A key area considered in the economic analysis undertaken, and which generates user disbenefits is the effect on through trips. The large through trip disbenefit is driven by two main factors:
- The 4-minute additional time per service due to the stop at St Anne's. This assumption has been taken from the National Rail Capacity Analysis Study; and
 - The larger volume of through trips due to assumption that a 2 tph stopping service will run along the line following MetroWest upgrades - this generates additional demand from local stations in addition to current patronage.
- 3.61 Figure 0-7 shows how the BCR changes as the delay to through services reduces. Additional time to stop at St Anne's would need to be less than 54 seconds for the benefit to new users to outweigh the disbenefit to through trips. It is considered unlikely, even with a 30-second dwell time that the impact of braking and acceleration can be reduced to this level. However, new rolling stock on the line following electrification may improve this in the longer term.

Figure 0-7: Patronage forecast - one train per hour service at St Anne's Park Station



3.7 Qualitative Appraisal of Wider Impacts

- 3.62 To supplement the economic appraisal, a qualitative appraisal of the potential social and environmental benefits of the St Anne's Park scheme is provided in Table 0-11. Alongside a qualitative assessment of the economic impacts expected from the reopening of a station in St Anne's, this appraisal follows the DfT's Transport Appraisal Guidance (TAG) to outline the likely environmental and social impacts of the scheme's construction.
- 3.63 For each criterium, a high-level assessment of the overall impact has been provided, based on the 7-point scale outlined within Table 0-10 (taken from TAG).

Table 0-10. WeITAG Seven-Point Assessment Scale

Large Beneficial	Moderate Beneficial	Slight Beneficial	Neutral	Slight Adverse	Moderate Adverse	Large Adverse
+++	++	+	0	-	--	---

- 3.64 In addition to the direct economic benefits set out in the previous section, the re-opening of a station in St Anne's could contribute and support future economic growth. Whilst the presence of a rail station can often be a catalyst for economic activity in the vicinity, such growth would include inward investment that has been displaced from other locations in the region. The level of net economic growth would therefore require additional analysis at the OBC stage. Further consideration could also be given to how a new station could supplement and support economic growth and regeneration across St Anne's.
- 3.65 From an environmental perspective, there would be minimal impacts beyond the actual construction of the rail station, depending on the precise location selected. The ongoing operation of the rail services will have no net impacts as rail services are already operating along the line. There would be anticipated benefits to the local townscape, depending on the design of the station, which could enhance the local area and promote further growth and development. There would be potential benefits from any trips shifting from car to rail, with reductions in local air quality, noise and greenhouse gases.
- 3.66 The re-opening of a station in St Anne's would have value for both potential users, through the option of using the rail network, and also non-users, through the value they would place on the presence of a station in the area. The opening of the station, within the wider WECA transport policies and investment over the next 10-15 years, would further promote multi-modal trip making. The use of active modes to for first/last mile connectivity would also increase physical activity for trips shifted from car, with enhanced travel information promoting more efficient modal integration.
- 3.67 Whilst the station is likely to be unstaffed, the provision of appropriate CCTV and lighting systems would be expected to provide a safe and secure station environment. The potential introduction of businesses/pop-ups in the vicinity of the station would also further promote the safety and security of the area, integrating it within the local community as a transport hub.

Table 0-11: Appraisal Summary Table for the Impacts of the St Anne's Park Scheme

Impacts		Summary of key impacts	Assessment	
			Qualitative	7-point scale
Economy	Business users & transport providers	<ul style="list-style-type: none"> - The scheme will provide improved accessibility to the rail network for commuters and those travelling for business, providing faster and more reliable journey times to destinations on the network across Bristol and the West of England region. - There is potential for negative impacts on the existing rail network, with services calling at St Anne's Park reducing the resilience of the network to perturbation. Stopping services calling at St Anne's will also see their current journey times increase marginally. - There may also be potential impacts on bus operators, with some demand for public transport use likely to switch from bus to rail. 	Slight Beneficial	+
	Reliability impact on Business users	<ul style="list-style-type: none"> - Accessibility to the rail network for residents of St Anne's will provide the opportunity for more reliable commuting and business journeys using public transport than the existing bus network (often experiencing congestion and delays at peak hours, despite widespread bus-priority infrastructure). - However, it should be noted that the inclusion of stops at St Anne's Park would reduce the timetable resilience for the existing Bristol to Bath line, putting it at higher risk from perturbation. 	Slight Beneficial	+
	Regeneration	<ul style="list-style-type: none"> - The reopening of a station within St Anne's is likely to contribute to economic growth within the area, allowing better connectivity for business and leisure travel into and out of the suburb. However, the extent to which any economic growth is displaced from other existing locations would require assessment. - The construction of a new station facility represents the starting point for future regeneration within the area, with the potential to act as a hub around which additional commercial or social development might be placed. 	Slight Beneficial	+
	Wider Impacts	<ul style="list-style-type: none"> - The scheme's construction could support wider economic growth within St Anne's, as a result of improved connectivity into the wider rail network. 	Slight Beneficial	+

		<ul style="list-style-type: none"> - Improved accessibility with employment could provide productivity impacts, as both the local labour supply could increase and new businesses could agglomerate to the area. - House prices in the St Anne's area would be likely to increase as the area becomes more accessible. - Social deprivation rates would also be expected to reduce based on a comparison with other similar locations that have rail stations. 		
Environmental	Noise	<ul style="list-style-type: none"> - During scheme construction, there are likely to be noise impacts around the station location, as well as construction traffic along surrounding roads during this period. A bespoke Construction Management Plan would be required. - Longer term improvements in road traffic noise expected across Brislington, although there is potential for higher road traffic noise within St Anne's, through an increase in drop off/pick up journeys into the area. 	Neutral	0
	Air Quality	<ul style="list-style-type: none"> - Improvements in air quality across Brislington would be expected if modal shift can be encouraged from road to rail modes for existing journeys. 	Slight Beneficial	+
	Greenhouse gases	<ul style="list-style-type: none"> - Lower GHG emissions from car-based transport across St Anne's would be expected via modal shift to rail travel. - Prior electrification of the Great Western Main Line will minimise emissions from rail transport in the area. 	Slight Beneficial	+
	Landscape	<ul style="list-style-type: none"> - St Anne's represents a relatively urban area already. The scheme's construction is unlikely to have any major landscape impacts (depending on finalised location) with appropriate mitigation implemented. 	Neutral	0
	Townscape	<ul style="list-style-type: none"> - Construction of a new train station in St Anne's likely to improve the townscape of the local area, creating a modern station facility for local residents to use and enjoy. - Potential for new station to be built in the style of the former St Anne's Park station would provide aesthetic improvements for the area. 	Slight Beneficial	+
	Historic Environment	<ul style="list-style-type: none"> - Limited impact likely on the local historic environment. Old railway station site has already been used for alternative industry in the years since closure, so full reconstruction is already required at an alternative site. 	Neutral	0

		<ul style="list-style-type: none"> - Potential to rebuild the station in a similar style to its predecessor, which could enrich the historical importance of the area. - Limited additional historic environment value in the surrounding area that would be threatened by the scheme's construction. 		
	Biodiversity	<ul style="list-style-type: none"> - Bristol to Bath rail line is in use, so no change to biodiversity impact along the railway alignment. - Construction of a new station may remove some habitat space for biodiversity, depending on its location. However, most likely locations through St Anne's are already in use for other industrial/commercial purposes. 	Neutral	0
	Water Environment	<ul style="list-style-type: none"> - No impact on groundwater anticipated from scheme construction. - As discussed within the Strategic Dimension, the likely locations for the new station are not within any potential flooding zones, with very low resultant risk from flooding. 	Neutral	0
Social	Commuting and Other users	<ul style="list-style-type: none"> - The scheme will provide improved accessibility to the rail network for commuters, providing faster and more reliable journey times to destinations on the network across Bristol and the West of England region. - Provision of a station at St Anne's Park will help to encourage mode shift from car to rail, reducing road-based traffic congestion at peak hours and improving reliability of journey times across the road and rail networks. - There will be some negative journey time impacts on existing users of the Bristol to Bath line, with added stopping times for services calling at St Anne's Park. 	Moderate Beneficial	++
	Reliability impact on Commuting and Other users	<ul style="list-style-type: none"> - Accessibility to the rail network for residents of St Anne's will provide the opportunity for more reliable commuting journeys using public transport than the existing bus network (often experiencing congestion and delays at peak hours, despite widespread bus-priority infrastructure). - However, it should be noted that the inclusion of stops at St Anne's Park could reduce the timetable resilience for the existing Bristol to Bath line, putting it at higher risk from perturbation. 	Slight Beneficial	+
	Physical activity	<ul style="list-style-type: none"> - The scheme aims to implement rail travel alongside active and other sustainable transport networks, with walking and cycling expected to be the principal modes of both accessing the station and completing 	Slight Beneficial	+

		<p>'last-mile' trips to destinations. Wider transport policy in the WECA area, including the Future Transport Zone, will further promote active mode use for first/last mile trips.</p> <ul style="list-style-type: none"> - Modal shift from car-based travel to rail would therefore provide some benefits for increased physical activity, although it should be noted that any mode shift away from existing active travel would have the reverse effect. 		
	Journey quality	<ul style="list-style-type: none"> - Rail travel represents can provide a higher quality of journey experience than use of a car, removing the pressures of driving, and providing more space and the ability to move around whilst in transit. - In combination with active travel modes, use of a station at St Anne's Park could provide integrated, high-quality journeys that avoid the need to use private transport. Further policy investment to improve modal integration and reduce wait times and improve waiting facilities, would further enhance journey quality. 	Moderate Beneficial	++
	Accidents	<ul style="list-style-type: none"> - Encouraging increased use of the rail network would indirectly lower traffic volumes across the road network in St Anne's and the wider Brislington area. Reduced traffic demand is likely to lower road accident risk. - Suitable infrastructure should be constructed at the new St Anne's Park station (e.g. passing loops) to improve the capacity of the Bristol to Bath line, simultaneously reducing risk of rail collisions. 	Slight Beneficial	+
	Security	<ul style="list-style-type: none"> - The proposed station at St Anne's Park is likely to be staff-free and would therefore require adequate CCTV and lighting provision to ensure safety throughout the year and at all times of day. 	Neutral	0
	Access to services	<ul style="list-style-type: none"> - The scheme would improve accessibility to the rail network across Bristol and increase connectivity for local residents to a range of services across the city. In particular, access would be improved for those without existing access to a car, improving the social-transport inequalities in existence across the area. - Whilst the rail network does not offer full coverage of the city, with large areas of the south and east in particular lacking rail connectivity, a station in St Anne's would provide easy access to the centre of Bristol, as well as to areas such as Filton to the north (including the UWE campus), and Keynsham/Bath to the south-east. 	Slight Beneficial	+

		<ul style="list-style-type: none"> - It should be noted that access to key health facilities such as Southmead Hospital, South Bristol Community Hospital, the Bristol Royal Infirmary and Callington Road Hospital, is not permissible from the rail network alone (with onward bus or active travel transport required). 		
	Affordability	<ul style="list-style-type: none"> - In line with current pricing, there are likely to be similar pricing for rail journeys around the local Bristol network (c. £2 for a return). - Marginally cheaper than bus travel across the city, but regional and national trips outside of Bristol are likely to be expensive. 	Neutral	0
	Severance	<ul style="list-style-type: none"> - With the Bristol to Bath rail line already operating at high demand, the creation of a station at St Anne's Park is not likely to alter existing severance across St Anne's. - An underpass or footbridge would be installed as part of the station's construction, but it is likely that this would be only available to rail patrons to use, for platform access only. 	Neutral	0
	Option and non-use values	<ul style="list-style-type: none"> - It is likely that the scheme holds a large degree of non-use value for local residents of St Anne's. As the result of many years of campaigning for the reopening of a station, the improved connectivity that would be provided represents an important aspect of personal freedom for local people – in particular, those without access to a car. - In turn, the option value of an accessible rail alternative for trips would be highly useful for local residents, providing an efficient and reliable alternative to car, bus or active travel in the area. 	Slight Beneficial	+

3.9 Summary

- 3.68 Opening a new Rail station at St Anne's that is served by a 2 tph service generates time saving benefits for users who transfer from bus (15 minutes per trip). Time savings for users who switch to rail from walking or car are 7.5 minutes due to application of 'rule of a half'.
- 3.69 Assuming St Anne's Park is served by 2 trains per hour the daily forecast for the station is 2,157 passengers.
- 3.70 New rail users time saving benefits across a 60-year appraisal equate to £29.3m (2010 present year value in 2010 prices).
- 3.71 There would also be economic benefits associated with the reduction in road trips. However, due to the relatively low change in daily car trips these benefits are likely to be marginal and have not been quantified at this stage. Marginal economic benefits will include:
- Decongestion time savings for road users – lower car volumes will reduce congestion and marginally increase travel times for drivers;
 - Greenhouse gas emissions reductions – lower car volumes will result in lower fuel consumption and lower tailpipe emissions;
 - Accident reductions – accidents are forecast from road vehicle km, lower car volumes will result in marginal reductions in accidents and casualties; and
 - Local air quality and noise improvements – lower car volumes may marginally reduce local air pollution and noise in St Anne's and Brislington east and along the A4 corridor into the city centre.
- 3.72 Construction costs associated with the station have been estimated as £8m. This equates to £5.3m (2010 present year value in 2010 prices).
- 3.73 Considering the benefits only associated with new rail users following the opening of St Anne's station to a 2 tph service, would give a Benefit to Cost Ratio (BCR) of 5.54, based on the 15-minute journey time benefit reported above.
- 3.74 However, the economic appraisal needs to consider the impacts on all users, including existing through trips. Rail passengers travelling through St Anne's will experience a delay from services stopping at St Anne's. Delays to through trips of 1 minute, 2.5 minutes and 4 minutes have been assessed. Although these through trip passengers will experience a much shorter delay than the time saving experienced by new users (15 minutes); there are a significantly greater number of daily through trips (52,416) than new passengers at St Anne's (2,157). The overall BCR is therefore significantly impacted by this disbenefit.
- 3.75 The time disbenefit to through trips scales with the length of the stopping time at St Anne's:
- With a stop time of 1 minute, through trip disbenefits across a 60-year appraisal equate to £35.8m (2010 present year value in 2010 prices). This is greater than the new user time saving benefit of £29.3m (2010 present year value in 2010 prices).
 - With a stop time of 2.5 minutes, through trip disbenefits across a 60-year appraisal equate to £89.5m (2010 present year value in 2010 prices); and
 - With a stop time of 4 minutes, through trip disbenefits across a 60-year appraisal equate to £143.2m (2010 present year value in 2010 prices). The stopping time at St Anne's Park would need to be less than 50 seconds for the dis benefit to through trips to outweigh the time benefit to new users.
- 3.76 Considering impacts across all users of St Anne's station with a 2 tph service would give a Benefit to Cost Ratio (BCR) of -1.2 with a stop time of 1 minute; a BCR of -11.4 with a stop time of 2.5 minutes and a BCR of -21.5 with a stop time of 4 minutes. A 1 tph service would further worsen these figures, as would the inclusion of any infrastructure capital costs required to deliver a 2 tph service.

- 3.77 Given the above outputs from this SOBC appraisal, based on the current situation and assumptions, further appraisal and analysis could be undertaken at a future date to reflect policy changes. For example, more detailed analysis could be undertaken to explore the potential and opportunities to increase the demand for rail services, within the wider WECA transport policy context. This could be through improving integration and widening the connectivity/catchment of the rail services/station. Further work could also define the precise delay to existing rail users and indeed to determine the extent to which any such delay would be perceived/noticed by existing users, depending on the length and duration of their rail trips.
- 3.78 A new station in St Anne's, now or in the future, must also be considered within the context of the WECA 10 and 25-Year Rail Strategies, which will further enhance network connectivity, potentially providing residents of St Anne's with greater accessibility to employment, services and facilities across the region. This would also be aligned to wider policies to connect rail stations to other key destinations, such as central Bristol rather than focusing on the rail termini such as Bristol Temple Meads.
- 3.79 Within the context of current and future transport policies of the WECA region, a new station in St Anne's could complement and support a shift to active and multi-modal non-car travel patterns, forming an important part of the multi-modal offer. Addressing this through the creation of additional capacity for more cars is no longer a realistic or palatable option, this capacity instead inducing yet more demand.
- 3.80 St Anne's currently forms, and will continue to do so, part of a strategic approach for creating neighbourhoods which enable and deliver multi-modal transport choices giving travellers a range of options. Where these options collectively offer versatility, convenience and user benefit they can replace the need to own and use a car, an outcome which will become increasingly necessary for and decarbonising transport and realising lower car ownership.
- 3.81 The station could therefore operate as a neighbourhood transport hub, encouraging active travel use for first/last mile trips to and from the station. As part of the Future Transport Zone programme, WECA and BCC are trialling and delivering projects involving shared mobility, e-scooters, demand responsive travel and journey planning, which in part will realise this vision. Creating enhanced and new public transport and active travel linkages from St Anne's station to the wider network, including the possible A4 corridor metro-bus service, could further validate the role of the station as a neighbourhood centre and transport hub.

4. Financial Dimension

4.1 Introduction

- 4.1 The affordability of a proposed option is normally presented in the Financial Dimension, with this section outlining an estimate of the life cycle costs, their breakdown and levels of contingency for the preferred options. There are a number of ways in which investment in the rail network can be funded, procured, and delivered. These range from those schemes which are undertaken solely by central Government or Network Rail, to those which involve partial or full third-party involvement.
- 4.2 The purpose and scope of the financial dimension for this SOBC is to provide an indication of the outline costs for reinstating a station at St Anne's Park. The economic dimension identified in Section 3 gives an indication of the costs required to generate a value for money assessment for the scheme, upon which a decision can be made to progress to the more detailed assessment of an Outline Business Case.

4.2 Costs

- 4.3 Based on outturn costs for similar two-platform unstaffed stations, the capital cost would be expected to be in the region of £8m-£15m. More detailed site-specific feasibility would be required to produce a more accurate estimate, particularly in relation to land requirements. Annual operating costs could be expected to be in the region of £50k per year, with a further £30k Long Term Charge. It is assumed that no new train services will operate to serve the station, and that the additional time penalty for the station call will not trigger a requirement for additional rolling stock or traincrew.

Table 0-1: Cost Estimates

Option	Cost Estimate
New station	£8-15m
Annual Operating costs	£50,000*

*source: AECOM Rail Planning Team estimate

4.3 Funding Sources

- 4.4 With no detailed cost assessment for delivery of the scheme yet available, it cannot be determined whether there is sufficient funding cover.
- 4.5 However, possible sources of funding for St Anne's station (in addition to the Restoring Your Railway Fund, Levelling Up Fund and other DfT sources) could include local contributions from WECA investment Fund, LEP (Local Enterprise Partnership) Funding, Bristol City Council funding, Devolved Major scheme funding, and any potential Section 106 agreements.
- 4.6 It is assumed that scope of GWR's station operation responsibilities will be extended under the future industry contractual arrangements to include St Anne's Park.

4.4 Cost Risks and Uncertainties

- 4.7 Station construction costs will be subject to a Quantified Cost Risk Assessment at the appropriate time.
- 4.8 As discussed in the Economic Dimension, the estimated revenue loss due to extended journey times on the services due to slow down and stop at the new station is significant, with an NPV of around -£11 million. This figure has been derived from a time penalty of 1 minute and calculated using the rail industry demand forecasting tool MOIRA. However, in practice the level of potential delay requires further analysis and could be over-or under-stated.

5. Commercial Dimension

5.1 Introduction

- 5.1 The Commercial Dimension provides evidence on the commercial viability of the St Anne's station and the procurement strategy that will be used. Understanding the commercial viability of a scheme is the first step in ensuring due diligence for any project. This section has been developed by providing a summary of the output specification and the outcomes that would be supported by these requirements, the procurement objectives, outcomes and constraints and identification of potential procurement/purchasing options.

5.2 Output Based Specification

- 5.2 Multiple outputs and outcomes must be considered with regards to procurement options. These are:
- Delivery of the scheme within the available funding;
 - Delivery of the scheme to the specified timescale of the programme;
 - Ensuring full commitment to the scheme;
 - Ensuring 'Best Value' is delivered;
 - Offer of an affordable 'whole life' cost;
 - Reduction of risks to a level that is as low as practically possible – notwithstanding this, it is also important to ensure any transfer of risk to a third party does not impact on scheme quality, affordability, or the ability to deliver best value; and
 - Establish contractor and stakeholder engagement throughout the whole process from early planning to scheme delivery.

5.3 Delivery and Ownership Models

- 5.3 For the purposes of the SOBC, BCC and WECA are anticipated to be the sponsor parties, with Network Rail providing support and undertaking scheme delivery. This is commonly known as a 'third party sponsor, Network Rail delivery' approach and is the most frequently used delivery mechanism for rail schemes.
- 5.4 For St Anne's there are four main elements of procurement and delivery:
- **Professional services pre-construction:** Scheme preparation works will be undertaken using in-house resources at Bristol City Council, WECA, framework consultants and Network Rail;
 - **Station construction works:** Scheme track-side construction will be led by Network Rail and delivered through a Design and Build contract;
 - **Non-trackside construction works:** Non-track-side work will be undertaken by Network Rail, local developers, Bristol City Council, WECA in-house resources and framework contractors; and
 - **Train operator service:** DfT Rail, the Train Operating Company (TOC) Great Western Railway (GWR) to include the stop within the operating concession specification, in addition to operating the station itself.

5.4 Other Delivery Models

- 5.5 For the purpose of the SOBC, the following additional procurement mechanisms are recognised as alternative options, which may be worthy of further investigation should the scheme progress to the next stage of assessment:

- 1) **Transport Authority Investor:** The Transport Authority acts as a third-party investor to take forward infrastructure delivery. For high value and complex schemes, there is potential to take such work to the market as a Design and Build (D&B) contract. The disadvantages relate to the limited relevant experience of authorities in managing a delivery contract for works on the rail network.
- 2) **Strategic Construction Partner:** There are a number of frameworks available to local authorities such as the Scape National Civil Engineering and Infrastructure Framework, through which the local authority could appoint a qualified pre-approved contractor. The contractor would be able to provide assistance during the feasibility, pre-construction and construction stages.
- 3) **Private Finance Initiative (PFI):** With PFI contracts, private firm(s) provides the up-front capital for the project and are contracted to complete and manage the asset. The infrastructure is then leased over a long-term period, typically in excess of 25 years. PFI arrangements typically include a complex procurement arrangement.

5.5 Summary

- 5.6 For the purposes of this SOBC, the existing procurement route for this type of scheme in the West of England of 'third party sponsor, Network Rail delivery' has been assumed. This approach has been successfully used for similar schemes by BCC and WECA under the MetroWest Phase 2 programme. It is recommended that this selection and other options are explored and assessed in further detail should the project proceed to the OBC stage.

6. Management Dimension

6.1 Introduction

- 6.1 This section sets out how Bristol City Council and strategic partners the West of England Combined Authority (WECA), Network Rail and Great Western Railway (GWR) will deliver the project. The partners have a track record of delivering similar transport schemes in the region, including MetroWest and MetroBus, and will draw upon this experience for this project; the project has already benefited from the strong existing working relationships with the rail partners, Network Rail and GWR, who will be critical to the success of this project.

6.2 Delivery Strategy

- 6.2 The project could be delivered using the established and successful programme/project model currently being used by WECA to deliver MetroWest Phase 2. The St Anne's Park station project could be one of the individual rail projects in the MetroWest Phase 2 programme; it is not currently identified as such in the programme.
- 6.3 The success of the MetroWest Phase 2 programme is a reflection of the strong working relationships between the West of England authorities and the rail industry, including:
- Network Rail;
 - Train operating companies;
 - Freight operating companies; and
 - DfT Rail.
- 6.4 This experience has influenced the development of governance and working arrangements, including high level technical inputs to projects.

6.3 Governance

- 6.5 Governance reflects the involvement of WECA in the ultimate delivery of the scheme, although the scheme is jointly promoted by Bristol City Council and WECA (Figure 6.1). The West of England (WoE) Joint Committee brings together the Leaders/Mayors of Bath and North East Somerset, Bristol, North Somerset and South Gloucestershire Councils and the West of England Combined Authority.
- 6.6 The WoE Joint Committee decides on the allocation of all Local Growth Fund funding and oversees the delivery of prioritised schemes. It receives and considers high-level quarterly reports and exception reports, via the West of England Strategic Rail Steering Group and BCC Rail Programme Board. The WoE Joint Committee is the ultimate decision-making body for changes escalated through the governance structure. The WoE Transport Board provides strategic guidance and advice to the WoE Joint Committee.
- 6.7 The West of England Strategic Rail Steering Group provide high-level challenge and independent assessment. It receives high-level reports on all rail schemes across the West of England and has a particular emphasis of overseeing the programme budget.
- 6.8 The BCC Rail Programme Board oversees delivery of all BCC rail projects and BCC inputs to West of England rail projects, such as the MetroWest Phase 2 programme. BCC could therefore appoint a Project Manager for St Anne's Park station, to work with MetroWest (WECA) project managers. MetroWest Phase 2 has a Senior Responsible Owner (SRO) accountable to the Rail Programme Board and WoE Joint Committee for ensuring the programme objectives are met.

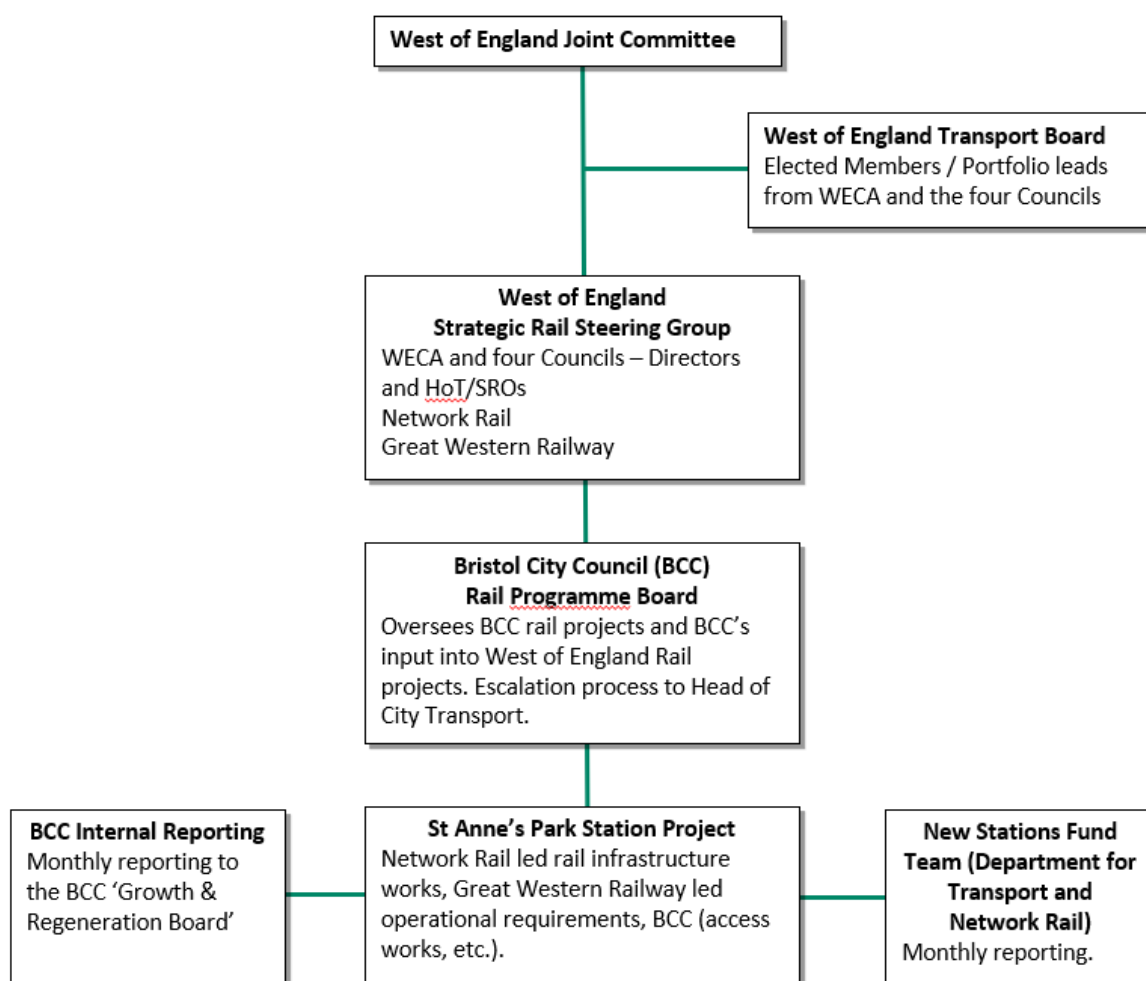


Figure 0-1: St Anne's Park Station Governance Arrangements

- 6.9 It is recognised that there will be a requirement for Network Rail's involvement in some form at each stage of the project. Network Rail's participation is critical due to their role of 'Infrastructure Manager' and 'System Operator' of the national rail network. Irrespective of the procurement route/management structure it will be Network Rail's role to verify that the scheme is completed and integrated within the existing rail network and associated operation.
- 6.10 As Infrastructure Manager, Network Rail possesses a considerable interest in any proposed improvements to the rail network, and as such, there are certain services that only Network Rail can supply, described as 'non-contestable' services, which include:
- Protecting the railway network and its operations;
 - Information provision;
 - Safety management; and
 - Consents and access to the network.

6.4 Stakeholders

- 6.11 As discussed in Section 2, a programme of stakeholder engagement would be developed in order to deliver the scheme, recognising the range of interests and roles among the stakeholders, engaging the right people at the right time with clear and concise communication. The different stakeholder groups include:
- Community – residents, community groups, lineside neighbours;
 - Campaign groups;

- Transport user groups;
 - Key local businesses / business groups;
 - Key service providers e.g. public transport operators;
 - Other organisations / groups – Environment Agency, Natural England, Historic England, landowners, developers, utilities, etc.;
 - Politicians / Local Government - Local MP (Kerry McCarthy MP, is a key sponsor), Bristol City Council, WECA, DfT, ORR; and
 - Rail Industry – NR, GWR, Freight operators.
- 6.12 There has been a long-standing local campaign by local community and rail groups to deliver this station. The most recent piece of work, the Neighbourhood Partnership funded research conducted by the University of the West of England, was undertaken in 2016 and any effort to progress the station will attract attention. There will be a clear need to explain what is happening, build understanding of what could be delivered and generate support for any proposals. The project will utilise the principles of the MetroWest programme:
- Specific communication activities are focussed at the right level for particular consultees and stakeholders. Different groups will have their own concerns and require either a different level of information or have specific interests in the project;
 - An appropriate level of feedback is sought from consultees and stakeholders to be incorporated into the development of the project;
 - Concerns of potential objectors are addressed as far as possible; and
 - The Core Project Team will be responsible for ensuring statutory consultation meets the requirements for the appropriate process.
- 6.13 A Stakeholder Management Plan will be produced to inform the appropriate engagement strategy when the project progresses to Outline Business Case.
- 6.14 It is anticipated that a new station may raise concerns relating to operational issues such as noise, lighting, access and parking. Progressing the project will involve developing design options which can be used to engage stakeholders to identify concerns and seek to resolve them. This process will be identified in the Stakeholder Management Plan.

6.5 Programme and Dependencies

- 6.15 At this stage the timescale and programme for delivery of the station have not been identified. Further development of a programme will be undertaken should the scheme be progressed to OBC stage. This will also need to be developed in line with any requirements of the 'Restoring Your Railway' fund, assuming a successful allocation of funding to the scheme. It is likely that a minimum of 5 years will be required before successful delivery of a station: An initial period of 2 years to progress the scheme through business case and early design, before a 3+ year period of construction.

6.6 Management of Risk

- 6.16 Risk management ultimately sits with the Rail Programme Board because of the close inter-relationship between the various rail projects. A Rail Programme Co-ordinator is responsible for tracking and monitoring programme level-risks, with the most significant project level and programme risks reviewed at each board meeting, via a highlight report.
- 6.17 The St Anne's Park station project team will be responsible for developing and managing the project risk register. This will be fed up to the Rail Programme Co-ordinator to incorporate into the programme risk tracking and highlight reporting to the Rail Programme Board. A risk owner will be identified from the project team who will be the person best able to manage the risk.
- 6.18 At this stage an assessment of high-level project risks has been undertaken and is provided in Table 0-1.

Table 0-1: Initial Risk Assessment

Risk	RAG rating	Mitigation	Mitigated RAG rating
Lack of timetable capacity	Red	Implementation of additional track capacity following MetroWest Phase 1 projects.	Amber
Failure to secure funding due to low value for money	Red	Further review of potential growth prospects for St Anne's population and economy, that could support station option.	Amber
Delays to securing local funding	Amber	Identify alternative funding sources that could be used to support investment.	Green
Alternative mode develops which further weakens case for railway station	Amber	Multi-modal co-ordination of transport strategy	Green
Detailed engineering studies reveal need for complex construction methodologies increasing capital cost ranges	Red	Appropriate application of optimism bias	Amber

